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Fig. 1

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REMARK REMARK	r= 0 DATE:	.236. 16-Ji	579 1 un-99	ree r	= 0.30 01:57	08425	ordinates			
CRYST1	49.8	90	. 1	46.5					2	
REMARK	r=0	236-J0 NCCONCCBCONCCBCCCCCCCCCCCCCCCCCCCCCCCCC	79 99 YYYYRRRRRAAAAAHEEEEBHEEEBHEEEBHEEBHEEBHEEBHEEBHEE	ree r	= 0.30	08425	30 90.00		2 1.00 45.66 1.00 45.93 1.00 46.18 1.00 48.32 1.00 42.96 1.00 39.00 1.00 40.17 1.00 40.63 1.00 36.56 1.00 39.31 1.00 25.76 1.00 29.23 1.00 21.31 1.00 15.57 1.00 15.42 1.00 9.82 1.00 12.23 1.00 12.23 1.00 12.85 1.00 9.60 1.00 15.73 1.00 14.77 1.00 14.44 1.00 14.35 1.00 13.40 1.00 12.20 1.00 11.34 1.00 13.52 1.00 11.51 1.00 14.29 1.00 16.52 1.00 16.52 1.00 16.52 1.00 16.62 1.00 16.84 1.00 17.67 1.00 16.14 1.00 17.67 1.00 16.84 1.00 17.53 1.00 16.84 1.00 13.97	A A A A A A A A A A A A A A A A A A A
ATOM ATOM	49 50	CE2 CZ	PHE PHE	8 8		30.479 29.924	20.519 21.393	5.412 6.336	1.00 12.30 1.00 14.49	A A
ATOM	51	С	PHE	8		26.914	15.579	5.550	1.00 17.25	А
ATOM	52	0	PHE	8		27.194	14.755	6.394	1.00 18.79	A

Fig. 2

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A HOM	F 2	3.7	CT 11	0	26 256	15 040	4 200	1 00 17 51	70.
ATOM ATOM	53 54	N CA	GLU GLU	9 9	26.356 26.059	15.249 13.855	4.388 4.048	1.00 17.51 1.00 17.55	A A
ATOM	55	CB	GLU	9	24.664	13.749	3.435	1.00 17.76	A
ATOM	56	CG	GLU	9	23.554	14.273	4.329	1.00 20.61	A
ATOM	57	CD	GLU	9	23.291	13.365	5.503	1.00 23.30	A
ATOM	58	OE1	GLU	9	24.062	12.399	5.690	1.00 22.58	A
ATOM	59	OE2		9	22.309	13.611	6.239	1.00 26.41	A
MOTA	60	С	GLU	9	27.091	13.262	3.078	1.00 18.24	Α
ATOM	61	0	GLU	9	27.844	13.988	2.432	1.00 16.08	A
ATOM	62	N	GLY	10	27.140	11.939	2.983	1.00 18.42	Α
ATOM	63	CA	GLY	10	28.096	11.326	2.080	1.00 18.56	А
ATOM	64	C	GLY	10	28.583	9.945	2.482	1.00 19.97	A
ATOM	65	0	GLY	10	28.526	9.564	3.649	1.00 20.35	A
ATOM ATOM	66 67	N CD	PRO PRO	11 11	29.096 29.265	9.170 9.483	1.521 0.094	1.00 20.31 1.00 20.97	A A
ATOM	68	CA	PRO	11	29.203	7.831	1.853	1.00 20.79	A
ATOM	69	CB	PRO	11	29.729	7.153	0.488	1.00 20.79	A
ATOM	70	CG	PRO	11	29.208	8.147	-0.544	1.00 21.83	· A
ATOM	71	C	PRO	11	30.895	7.831	2.637	1.00 21.56	A
ATOM	72	0	PRO	11	31.562	8.860	2.777	1.00 18.77	Α
ATOM	73	N	GLU	12	31.250	6.658	3.152	1.00 21.58	Α
ATOM	74	CA	GLU	12	32.483	6.470	3.900	1.00 21.79	А
ATOM	75	CB	GLU	12	32.486	5.056	4.489	1.00 26.41	A
ATOM	76	CG	GLU	12	33.714	4.691	5.302	1.00 33.39	A
ATOM ATOM	77 78	CD OE1	GLU GLU	12 12	33.645 34.492	5.192 4.762	6.734 7.551	1.00 35.99 1.00 39.53	A A
ATOM	78 79	OE2	GLU	12	32.755	6.014	7.039	1.00 39.55	A
ATOM	80	C	GLU	12	33.659	6.660	2.928	1.00 34.30	A
ATOM	81	Ö	GLU	12	33.593	6.240	1.772	1.00 16.87	A
ATOM	82	N	GLY	13	34.727	7.295	3.393	1.00 17.80	A
ATOM	83	CA	GLY	13	35.863	7.520	2.525	1.00 17.26	Α
ATOM	84	С	GLY	13	35.591	8.646	1.541	1.00 18.42	А
ATOM	85	0	GLY	13	36.241	8.743	0.495	1.00 17.78	Α
ATOM	86	N	SER	14	34.622	9.496	1.868	1.00 16.87	A
ATOM	87	CA	SER	14	34.275	10.618	1.009	1.00 15.78	A
ATOM ATOM	88 89	CB OG	SER SER	14 14	32.762 32.328	10.892 11.227	1.057 2.371	1.00 16.79 1.00 12.97	A A
ATOM	90	C	SER	14	35.045	11.844	1.478	1.00 12.97	A
ATOM	91	Ö	SER	14	34.944	12.918	0.885	1.00 14.60	A
ATOM	92	Ň	GLY	15	35.829	11.664	2.537	1.00 17.21	A
ATOM	93	CA	GLY	15	36.612	12.757	3.082	1.00 19.59	A
ATOM	94	С	GLY	15	35.870	13.426	4.223	1.00 22.08	A
ATOM	95	0	GLY	15	36.493	13.973	5.147	1.00 23.73	A
ATOM	96	N	LYS	16	34.541	13.362	4.144	1.00 20.23	A
ATOM	97	CA	LYS	16	33.634	13.934	5.126	1.00 20.26	A
ATOM ATOM	98 99	CB CG	LYS LYS	16 16	32.590 31.498	12.894 13.450	5.520 6.400	1.00 17.48 1.00 17.72	A A
ATOM	100	CD	LYS	16	30.173	13.430	5.664	1.00 17.72	A
ATOM	101	CE	LYS	16	29.204	12.495	6.280	1.00 13.45	A
ATOM	102	NZ	LYS	16	29.955	11.579	7.159	1.00 15.36	A
ATOM	103	C	LYS	16	34.238	14.538	6.399	1.00 20.99	A
ATOM	104	0	LYS	16	34.189	15.753	6.586	1.00 20.66	Α
MOTA	105	N	THR	17	34.803	13.702	7.268	1.00 20.95	Α
ATOM	106	CA	THR	17	35.382	14.170	8.533	1.00 22.79	A
ATOM	107	CB	THR	17	35.897	12.971	9.372	1.00 24.86	A
ATOM ATOM	108 109	OG1 CG2	THR THR	17 17	36.911 36.460	13.419 11.874	10.280 8.473	1.00 27.36 1.00 26.75	A A
AION	109	CGZ	THE	Τ,	30.400	11.0/4	0.4/3	1.00 20.73	A

Fig. 2A-1

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	19.85 19.88 19.88 19.20 10.00	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	8.421 9.30662 9.30862 9.30862 9.30862 9.30862 9.30862 9.3087 10.121	15.228 16.0218 16.176 16.176 16.746 16.731 17.464 16.731 18.539 18.539 18.539 18.539 18.539 19.546 20.544 19.021 19.02	36.7115 36.72190 36.72190 37.2291 38.3319 40.0712 38.3319 40.0712 38.7152 38.7	17 18 18 18 18 18 19 19 19 19 20 20 20 20 20 21 21 21 21 22 22 22 22 22 22 22 22 22	THR O THR THR CA THR CA THR CB THR CA THR CB THR CG2 THR CG2 THR CG2 THR CG2 THR CG3 THR CG4 THR CG5 THR CG5 THR CG6 THR CG6 THR CG7 THR CG7 THR CG8 THR CG8 THR CG8 THR CG9 T	11123456789001234567890012345678900123456789000000000000000000000000000000000000	ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
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Fig. 2A-2

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ATOM	167	ОН	TYR	24	34.973	25.614	16.501	1.00 13.33	A
MOTA	168	С	TYR	24	36.015	25.699	10.556	1.00 14.44	Α
ATOM	169	O	TYR	24	35.757	26.886	10.719	1.00 13.95	A
ATOM	170	N	HIS	25	37.229	25.200	10.734	1.00 15.76	A
MOTA	171	CA	HIS	25	38.335	26.039	11.166	1.00 20.04	A
MOTA	172	CB	HIS	25	39.624	25.241	11.141	1.00 21.45	A
MOTA	173	CG	HIS	25	39.833	24.428	12.374	1.00 25.49	Α
ATOM	174	CD2	HIS	25	40.070	24.810	13.656	1.00 27.02	A
ATOM	175	ND1	HIS	25	39.738	23.057	12.396	1.00 27.27	A
MOTA	176	CE1	HIS	25	39.903	22.621	13.625	1.00 28.81	Α
ATOM	177	NE2	HIS	25	40.106	23.664	14.417	1.00 29.55	A
ATOM	178	C	HIS	25	38.505	27.303	10.349	1.00 21.20	A
MOTA	179	O	HIS	25	39.249	28.200	10.731	1.00 22.19	A
MOTA	180	N	ARG	26	37.806	27.371	9.225	1.00 23.69	A
MOTA	181	CA	ARG	26	37.882	28.519	8.334	1.00 25.23	Α
ATOM	182	CB	ARG	26	37.869	28.041	6.868	1.00 26.42	A
ATOM	183	CG	ARG	26	38.386	29.063	5.852	1.00 30.95	A
MOTA	184 185	CD	ARG	26 26	39.377	28.429 28.770	4.864	1.00 32.09	Α
ATOM ATOM	186	$^{ m NE}$	ARG ARG	26	39.060 39.297	27.974	3.475 2.431	1.00 32.41	A A
ATOM	187	NH1	ARG	26	38.967	28.382	1.215	1.00 30.59	A
ATOM	188	NH2	ARG	26	39.871	26.783	2.600	1.00 27.39	A
MOTA	189	С	ARG	26	36.719	29.474	8.594	1.00 24.86	Α
ATOM	190	O	ARG	26	36.912	30.694	8.608	1.00 26.52	A
ATOM	191	N	LEU	27	35.525	28.911	8.811	1.00 23.07	A
MOTA	192	CA	LEU	27	34.307	29.682	9.064	1.00 20.96	A
MOTA	193	CB	LEU	27	33.057	28.792	8.988	1.00 19.14	A
MOTA	194-	CG	LEU	27	32.699	28.002	7.722	1.00 19.04	A
ATOM	195	CD1	LEU	27	31.595	27.001	8.060	1.00 17.26	A
ATOM	196	CD2	LEU	27	32.235	28.934	6.609	1.00 15.23	A
MOTA	197 198	С	LEU	27 27	34.305 33.696	30.368	10.415 10.572	1.00 20.53 1.00 19.75	A A
ATOM ATOM	199	O N	LEU VAL	28	34.981	31.415 29.785	11.399	1.00 21.80	Α
ATOM	200	CA	VAL	28	35.000	30.379	12.735	1.00 23.18	A
ATOM	201	CB	VAL	28	35.746	29.484	13.755	1.00 20.76	A
ATOM	202	CG1	VAL	28	35.193	28.091	13.714	1.00 23.55	Α
ATOM	203	CG2	VAL	28	37.237	29.462	13.451	1.00 20.31	A
ATOM	204	C	VAL	28	35.650	31.756	12.742	1.00 22.92	A
ATOM	205	O	VAL	28	35.393	32.572	13.620	1.00 23.32	A
ATOM	206	N	LYS	29	36.493	32.005	11.754	1.00 22.70	A
MOTA	207	CA	LYS	29	37.193	33.270	11.663	1.00 24.04	Α
ATOM	208	CB	LYS	29	37.981	33.322	10.357	1.00 22.62	A
ATOM	209	CG	LYS	29	38.945	32.159	10.230	1.00 21.41	A
ATOM	210	CD	LYS	29	40.161	32.534	9.454	1.00 20.91	A
ATOM	211	CE	LYS	29	40.277	31.697	8.203	1.00 17.62	A
ATOM	212	NZ	LYS	29	41.704	31.520	7.813	1.00 19.23	Α
ATOM	213	C	LYS	29	36.244	34.450	11.770	1.00 25.21	A
ATOM	214	O	LYS	29	36.507	35.407	12.510	1.00 24.91	A
ATOM	215	N	ASP	30	35.129	34.375	11.053	1.00 26.90	Α
ATOM	216	CA	ASP	30	34.164	35.461	$\frac{11.091}{9.889}$	1.00 28.76	A
ATOM	217	CB	ASP	30	34.374	36.396		1.00 31.50	A
ATOM	218	CG	ASP	30	34.546	35.638	8.586	1.00 34.03	A
ATOM	219	OD1	ASP	30	35.576	35.841	7.890	1.00 32.19	A
MOTA	220	OD2	ASP	30	33.637	34.836	8.264	1.00 34.43	Α
MOTA	221	C	ASP	30	32.723	34.976	11.149	1.00 27.12	A
MOTA	222	O	ASP	30	31.828	35.625	10.623	1.00 28.57	A
MOTA	223	N	TYR	31	32.512	33.827	11.788	1.00 24.87	A

Fig. 2A-3

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	281 282 283 284 285 287 288 289 291 293 294 295 297 299 300 300 307 309 311 311 311 311 311 311 311 311 311 31	NH2 ARG C ARG O ARG N GLU CB GLU CC GLU OE1 GLU OE2 GLU C GLU O GLU N PRO CD PRO CA PRO CB PRO C PRO O PRO N GLY C GLY O GLY N GLY C GLY O GLY C GLY O GLY C GLY O CA GLY C GLY C GLY O CA GLY C	377788888889999999999999999999999999999	34.321 27.186 27.746 25.937 25.124 23.692 23.504 22.407 22.092 21.855 25.655 25.485 25.485 25.485 25.710 25.380 26.835 27.779 27.642 27.414 27.766 27.697 26.486 27.414 27.766 27.414 27.766 27.414 27.766 27.414 27.766 27.414 27.766 27.414 27.766 27.414 27.766 26.486 27.414 27.766 27.416 27.416 27.416 27.556 27.416 27.416 27.556 27.578 27.416 27.416 27.556 27.578	14.468 14.428 14.279 14.038 13.409 13.243 12.081 12.317 11.387 13.433 12.066 11.298 11.760 10.461 12.562 11.533 10.469 13.666 14.268 13.907 14.929 15.638 16.845 14.904 15.552 15.357 15.482 15.329 15.443 16.720 17.791 17	14.745 16.378 17.466 16.147 17.182 16.673 15.751 14.761 13.993 14.745 17.662 16.878 18.965 19.492 20.005 21.055 20.929 20.595 21.614 19.936 21.729 22.788 24.981 26.175 24.419 25.187 24.419 25.187 24.254 25.059 23.439 25.331 27.231 28.040 27.794 27.794 27.794 27.588 27.832	1.00 45.05 1.00 19.50 1.00 16.50 1.00 20.18 1.00 22.89 1.00 21.85 1.00 21.08 1.00 22.13 1.00 24.03 1.00 24.77 1.00 24.13 1.00 26.42 1.00 26.55 1.00 27.84 1.00 26.55 1.00 27.84 1.00 28.12 1.00 29.22 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.42 1.00 29.48 1.00 29.02 1.00 29.02 1.00 29.02 1.00 29.02 1.00 29.02 1.00 29.03 1.00 28.44 1.00 28.48 1.00 28.48 1.00 27.66 1.00 27.66 1.00 27.31 1.00 28.44 1.00 27.66 1.00 27.35	7 7 7 7
ATOM ATOM ATOM ATOM	319 320 321 322	CG PRO C PRO O PRO N THR CA THR	43 43 43 44 44	24.160 23.252 23.488 22.022 20.855	14.789 11.791 10.592 12.291	29.385 27.826 27.704 27.794 27.588	1.00 28.44 1.00 27.06 1.00 26.54 1.00 27.46 1.00 27.28	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7

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л по м	220	ΟΠ1	OT II	4.6	07 100	11 165	22 000	1 00 40 57	75.
ATOM ATOM	338 339	OE1 OE2	GLU GLU	46 46	27.188 28.358	11.165 11.749	23.090 24.855	1.00 40.57 1.00 39.83	A A
ATOM	340	C	GLU	46	24.038	7.882	25.336	1.00 28.82	A
ATOM	341	0	GLU	46	24.499	6.783	25.016	1.00 29.81	Α
ATOM	342	N	GLU	47	23.079	8.026	26.251	1.00 29.16	Α
MOTA	343	CA	GLU	47	22.507	6.899	26.981	1.00 28.33	A
ATOM	344	CB	GLU	47	21.505	7.370	28.032	1.00 31.03	A
ATOM	345	CG	GLU	47	21.919	8.575	28.821	1.00 35.69	A
ATOM ATOM	346 347	CD OE1	GLU GLU	47 47	22.509 21.965	8.193 7.267	30.155 30.806	1.00 39.30 1.00 38.20	A A
ATOM	348	OE2	GLU	47	23.519	8.821	30.544	1.00 30.20	A
ATOM	349	C	GLU	47	21.772	5.982	26.041	1.00 28.66	A
ATOM	350	0	GLU	47	21.953	4.772	26.070	1.00 28.63	A
ATOM	351	N	ILE	48	20.902	6.570	25.230	1.00 28.67	A
MOTA	352	CA	ILE	48	20.132	5.801	24.273	1.00 29.14	A
ATOM ATOM	353 354	CB CG2	ILE ILE	48 48	19.149 18.185	6.705 5.857	23.496 22.700	1.00 27.61 1.00 26.69	A A
ATOM	355	CG1	ILE	48	18.388	7.613	24.470	1.00 26.60	A
ATOM	356	CD1	ILE	48	17.490	8.628	23.793	1.00 25.71	A
ATOM	357	C	ILE	48	21.115	5.162	23.304	1.00 29.77	Α
MOTA	358	0	ILE	48	20.959	4.006	22.912	1.00 29.06	Α
ATOM	359	N	ARG	49	22.135	5.927	22.934	1.00 32.23	A
ATOM	360	CA	ARG	49	23.160 24.187	5.461 6.577	22.014 21.777	1.00 36.58 1.00 38.28	A
ATOM ATOM	361 362	CB CG	ARG ARG	49 49	24.167	6.621	20.375	1.00 38.28	A A
ATOM	363	CD	ARG	49	23.682	7.033	19.373	1.00 44.51	A
ATOM	364	NE	ARG	49	24.221	7.784	18.240	1.00 47.33	A
ATOM	365	CZ	ARG	49	25.323	7.452	17.570	1.00 47.80	Α
ATOM	366	NH1	ARG	49	26.018	6.372	17.914	1.00 47.10	A
ATOM ATOM	367	NH2		49	25.725 23.862	8.194 4.227	16.548 22.585	1.00 46.92 1.00 38.44	A A
ATOM	368 369	C 0	ARG ARG	49 49	23.002	3.208	22.303	1.00 38.44	A
ATOM	370	N	LYS	50	24.278	4.328	23.841	1.00 38.03	A
ATOM	371	CA	LYS	50	24.975	3.248	24.525	1.00 36.83	Α
ATOM	372	CB	LYS	50	25.279	3.684	25.952	1.00 37.35	Α
ATOM	373	CG	LYS	50	25.964	2.626	26.796	1.00 40.72	A
ATOM ATOM	374 375	CD CE	LYS LYS	50 50	27.429 27.599	2.960 4.392	27.030 27.511	1.00 41.37 1.00 44.39	A A
ATOM	376	NZ	LYS	50	29.032	4.798	27.561	1.00 47.85	Ā
ATOM	377	C	LYS	50	24.213	1.919	24.551	1.00 36.69	A
ATOM	378	0	LYS	50	24.817	0.854	24.671	1.00 35.81	A
ATOM	379	N	ILE	51	22.890	1.982	24.439	1.00 35.96	A
ATOM	380	CA	ILE	51	22.062	0.782	24.474	1.00 35.56	A
ATOM ATOM	381 382	CB CG2	ILE ILE	51 51	20.577 19.714	1.141 -0.058	24.612 24.261	1.00 34.05 1.00 31.47	A A
ATOM	383	CG1	ILE	51	20.306	1.607	26.043	1.00 33.91	A
ATOM	384	CD1	ILE	51	18.863	1.928	26.333	1.00 36.27	A
ATOM	385	С	ILE	51	22.235	-0.110	23.258	1.00 37.00	Α
ATOM	386	0	ILE	51	22.362	-1.324	23.388	1.00 36.83	A
ATOM	387	N Ca	VAL VAL	52 52	22.237 22.391	0.489 -0.282	22.076 20.858	1.00 38.92 1.00 41.12	A A
ATOM ATOM	388 389	CA CB	VAL	52 52	22.391	0.601	19.604	1.00 41.12 1.00 40.76	A A
ATOM	390	CG1	VAL	52	23.142	1.688	19.508	1.00 42.48	A
ATOM	391		VAL	52	22.133	-0.244	18.341	1.00 41.09	Α
ATOM	392	C	VAL	52	23.798	-0.873	20.805	1.00 42.70	A
ATOM	393	0	VAL	52	23.992	-2.003	20.348	1.00 43.15	A
MOTA	394	N	LEU	53	24.766	-0.120	21.319	1.00 44.83	A

Fig. 2A-6

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	395 396 397 398 399 400 401 402 403 404 405 406 407 408	CB I CD I CD2 I CD2 I CD I CD	LEU LEU LEU LEU LEU GLU GLU GLU GLU GLU	53 53 53 53 53 53 53 54 54 54 54 54	26.171 27.054 27.020 27.969 27.393 26.536 27.392 25.908 26.215 26.523 27.503 28.865 28.918 29.888	-0.528 0.640 1.876 2.933 1.480 -1.773 -2.553 -1.966 -3.135 -2.696 -1.501 -1.856 -2.722 -1.256	21.313 21.762 20.855 21.381 19.436 22.115 21.689 23.272 24.099 25.546 25.668 26.291 27.194 25.878	1.00 47.39 1.00 45.93 1.00 44.42 1.00 43.88 1.00 44.16 1.00 50.88 1.00 52.50 1.00 55.23 1.00 57.10 1.00 60.18 1.00 62.65 1.00 60.64	A A A A A A A A A A
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	409 410 411 412 413 414 415 416 417 418 419 420 421 422	C C C C C C C C C C C C C C C C C C C	GLU GLY GLY GLY GLY ASN ASN ASN ASN ASN ASN	54 55 55 55 55 56 56 56 56 56 56 56	25.129 24.898 24.465 23.440 23.817 23.789 24.157 24.625 25.190 24.455 24.993 23.221 23.739 23.919	-4.219 -4.905 -4.359 -5.380 -5.965 -7.257 -7.847 -9.264 -10.052 -11.018 -9.661 -7.856 -7.016	24.075 25.068 22.928 22.727 21.372 20.378 21.308 20.038 20.248 21.301 21.848 21.588 18.781 17.898	1.00 54.90 1.00 55.38 1.00 55.29 1.00 56.52 1.00 57.57 1.00 58.88 1.00 57.61 1.00 58.29 1.00 59.27 1.00 61.14 1.00 60.14 1.00 56.28 1.00 57.68	A A A A A A A A A A A A A A A A A A A
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	423 424 425 426 427 428 429 430 431 432 433 434 435 436	CA A CB A CG A CB A CCB	ASP ASP ASP ASP ASP ASP MET MET MET MET	57 57 57 57 57 57 57 58 58 58 58	22.826 21.994 21.827 21.994 21.377 22.745 20.628 19.614 20.614 19.386 19.721 18.538 19.065 20.309	-8.813 -8.847 -10.282 -11.325 -11.162 -12.310 -8.237 -8.921 -6.939 -6.213 -4.856 -4.129 -2.559 -3.111	18.657 17.457 16.941 18.036 19.115 17.813 17.715 17.648 17.999 18.266 18.873 19.490 20.141 21.333	1.00 53.31 1.00 49.64 1.00 55.11 1.00 60.39 1.00 62.29 1.00 62.30 1.00 44.53 1.00 37.61 1.00 30.04 1.00 27.21 1.00 21.68 1.00 13.77 1.00 15.00	A A A A A A A A A
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	437 4389 4401 4412 4443 4445 4445 4447 4449 450 451	C N O N N N N N N N N N N N N N N N N N	MET MET ASP ASP ASP ASP ASP ILE ILE ILE ILE	558 5555555555555555555555555555555555	18.589 19.157 17.273 16.418 14.951 14.004 13.480 13.780 16.843 17.139 16.886 17.296 17.653 18.920 16.505	-6.008 -5.727 -6.157 -5.960 -5.899 -5.615 -6.583 -4.428 -4.637 -3.679 -4.583 -3.365 -3.638 -4.455 -4.347	16.987 15.934 17.085 15.928 16.370 15.220 14.629 14.905 15.293 16.004 13.963 13.279 11.808 11.733 11.112	1.00 28.14 1.00 28.52 1.00 23.91 1.00 22.60 1.00 23.15 1.00 24.20 1.00 24.88 1.00 25.85 1.00 21.41 1.00 19.52 1.00 22.14 1.00 21.20 1.00 18.94 1.00 18.95 1.00 17.72	A A A A A A A A A A A A A A A A A A A

Fig. 2A-7

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ATOM	509	CE1	PHE	67	23.382	5.691	15.974	1.00 26.79	A
ATOM	510	CE2	PHE	67	22.645	3.624	16.921	1.00 23.85	Α
ATOM	511	CZ	PHE	67	23.674	4.475	16.563	1.00 23.88	A
ATOM	512	C	PHE	67	18.092	7.441	16.742	1.00 14.03	A
ATOM	513	0	PHE	67	18.580	8.570	16.807	1.00 12.55	A
ATOM	514	N	ALA	68	16.843	7.212	16.364	1.00 13.48	A
ATOM	515	CA	ALA	68	15.953	8.298	16.022	1.00 14.76	A
ATOM	516	CB	ALA	68	14.606	7.734	15.543	1.00 16.19	A
ATOM	517	C	ALA	68	15.742	9.196	17.249	1.00 16.89	A
ATOM	518	0	ALA	68	15.695	10.427 8.556	17.121	1.00 16.90 1.00 17.12	A
ATOM ATOM	519 520	N CA	ALA ALA	69 69	15.633 15.410	9.209	18.422 19.715	1.00 17.12 1.00 14.85	A A
ATOM	521	CB	ALA	69	14.931	8.187	20.734	1.00 13.25	A
ATOM	522	C	ALA	69	16.668	9.888	20.216	1.00 16.30	A
ATOM	523	Õ	ALA	69	16.610	10.831	21.000	1.00 14.16	A
ATOM	524	N	SER	70	17.811	9.374	19.779	1.00 17.73	A
ATOM	525	CA	SER	70	19.103	9.943	20.123	1.00 19.15	Α
ATOM	526	CB	SER	70	20.195	8.894	19.867	1.00 17.01	Α
MOTA	527	OG	SER	70	21.462	9.336	20.308	1.00 15.22	Α
ATOM	528	С	SER	70	19.284	11.179	19.199	1.00 22.47	Α
ATOM	529	0	SER	70	19.919	12.180	19.569	1.00 22.68	A
ATOM	530	N	ARG	71	18.700	11.102	18.001	1.00 23.16	A
ATOM	531	CA	ARG	71	18.763	12.187	17.022	1.00 24.02	A
ATOM	532	CB	ARG	71	18.330	11.688	15.642	1.00 23.12 1.00 24.85	A
ATOM ATOM	533 534	CG CD	ARG ARG	71 71	18.342 17.961	12.757 12.183	14.554 13.187	1.00 24.85 1.00 27.81	A A
ATOM	535	NE	ARG	71	18.976	11.257	12.684	1.00 27.31	A
ATOM	536	CZ	ARG	71	18.776	9.957	12.474	1.00 36.24	A
ATOM	537	NH1		71	19.761	9.198	12.019	1.00 39.64	A
ATOM	538	NH2		71	17.591	9.413	12.713	1.00 36.44	Α
ATOM	539	С	ARG	71	17.848	13.320	17.447	1.00 24.53	A
ATOM	540	0	ARG	71	17.976	14.444	16.972	1.00 26.57	Α
ATOM	541	N	ARG	72	16.916	13.014	18.336	1.00 26.02	Α
ATOM	542	CA	ARG	72	15.978	14.001	18.849	1.00 26.19	A
ATOM	543	CB	ARG	72	14.686	13.301	19.269	1.00 27.68	A
ATOM	544	CG	ARG	72	13.643	14.229	19.823	1.00 30.87 1.00 32.04	A A
ATOM ATOM	545 546	CD NE	ARG ARG	72 72	12.452 11.528	14.321 15.370	18.897 19.321	1.00 32.04	A
ATOM	547	CZ	ARG	72	11.423	16.554	18.728	1.00 32.00	A
ATOM	548	NH1	ARG	72	10.554	17.441	19.185	1.00 30.93	A
ATOM	549		ARG	72	12.188	16.849	17.678	1.00 32.67	A
ATOM	550	С	ARG	72	16.569	14.778	20.041	1.00 25.47	A
ATOM	551	0	ARG	72	16.353	15.987	20.173	1.00 25.92	A
ATOM	552	N	GLU	73	17.318	14.089	20.901	1.00 23.88	Α
ATOM	553	CA	GLU	73	17.917	14.737	22.069	1.00 23.70	A
ATOM	554	CB	GLU	73	18.510	13.706	23.042	1.00 24.81	A
ATOM	555	CG	GLU	73 73	17.470	12.934 13.841	23.861	1.00 27.04	A
ATOM ATOM	556 557	CD OE1	GLU GLU	73 73	16.527 15.377	14.044	24.631 24.180	1.00 27.69 1.00 26.28	A
ATOM	558	OE2	GLU	73 73	16.943	14.349	25.694	1.00 20.28	A A
ATOM	559	C	GLU	73 73	19.004	15.682	21.620	1.00 21.89	A
ATOM	560	Ö	GLU	73	19.059	16.826	22.062	1.00 22.04	A
ATOM	561	Ň	HIS	74	19.872	15.189	20.744	1.00 20.57	A
ATOM	562	CA	HIS	74	20.972	15.979	20.197	1.00 19.43	Α
MOTA	563	CB	HIS	74	21.698	15.169	19.104	1.00 19.74	Α
MOTA	564	CG	HIS	74	22.772	15.927	18.381	1.00 18.47	Α
MOTA	565	CD2	HIS	74	24.069	16.156	18.689	1.00 17.84	Α

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ND1 HIS CE1 HIS CE2 HIS C HIS
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23.66133560761678428817.5527601617.40552211.15.76016778422819.552211.15.760167784288117.76.3998117.57.801211.15.3998118.77.3988118.77.3988117.399.58478117.399.58478117.399.599.598117.399.599.599.599.599.599.599.599.599.599
16.519 17.070 17.0870 17.0870 17.0870 17.0870 17.0870 18.3429 18.3299 17.18.4571 18.517.9181 20.3544 17.19.3844 17.19.3844 17.19.3844 18.5243 18.7178 18.021.3544 18.021.3544 18.021.3544 18.021.354 19.0488 19.0488 19.0488 19.0588 1
17.151 16.7394 19.7654 19.7654 19.76593 18.2953 17.3755 16.1230 18.202 21.1851 19.1850 19.1850 20.1851 19.1850 20.1851
1.00 15.64 1.00 14.64 1.00 18.09 1.00 17.65 1.00 17.62 1.00 16.80 1.00 17.58 1.00 16.00 1.00 16.84 1.00 17.06 1.00 14.46 1.00 19.92 1.00 19.25 1.00 21.23 1.00 23.42 1.00 23.42 1.00 24.71 1.00 24.71 1.00 24.71 1.00 24.71 1.00 24.22 1.00 25.02 1.00 24.22 1.00 25.02 1.00 24.22 1.00 25.02 1.00 24.28 1.00 24.28 1.00 27.57 1.00 26.45 1.00 27.57 1.00 28.49 1.00 19.94 1.00 16.59 1.00 19.94 1.00 16.59 1.00 19.94 1.00 16.55 1.00 16.63 1.00 17.68 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94 1.00 19.94
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Fig. 2A-10

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	345678901234567890123456 662223333333333444567890123456 66666666666666666666666666666666666	CD2 CONCACBCCDCENZCONCACBCCDCCACCCCCCCCCCCCCCCCCCCCCCCCCCCCC	PRO PRO ALA ALA ALA ALA LEU U LEU U LEU U LYSS LYSS LYSS LYSS GLU U GLU U LYSS CGLU GGLU U CGLU U CG	81122233333333334444444455555555555555555	20.064 19.884 21.147 22.212 23.231 21.681 22.167 20.684 20.095 19.716 18.705 21.011 19.349 19.175 18.921 17.167 15.981 15.231 13.330 19.101 18.646 20.373 21.367 22.469 21.952 23.062 24.018 21.948 22.845	26.911 28.096 26.246 26.908 27.709 28.808 27.163 27.834 26.887 25.877 25.871 29.028 29.028 29.0736 29.736 29.736 29.736 30.232 29.736 31.2867 31.2867 31.2867 32.367 31.843 31.075 29.140 28.952 29.140 28.952 32.540 33.377	20.296 20.032 19.910 19.156 18.682 17.685 17.277 16.130 15.386 14.779 13.822 14.039 16.5814 17.850 18.435 18.435 19.237 20.197 19.235 19.237 20.523 21.370 22.070 23.391 18.564 18.660	1.00 21.52 1.00 24.42 1.00 20.79 1.00 21.00 1.00 19.36 1.00 20.35 1.00 21.95 1.00 19.97 1.00 18.99 1.00 18.41 1.00 15.72 1.00 16.05 1.00 23.59 1.00 23.59 1.00 23.10 1.00 25.75 1.00 27.61 1.00 28.01 1.00 29.06 1.00 31.01 1.00 33.77 1.00 36.32 1.00 27.07 1.00 26.91 1.00 29.14 1.00 29.14 1.00 29.14 1.00 44.75 1.00 44.49 1.00 44.75 1.00 26.23 1.00 26.23	A A A A A A A A A A A A A A A A A A A
ATOM ATOM ATOM ATOM ATOM	642 643 644 645 646	CD CE NZ C	LYS LYS LYS LYS	84 84 84 84	15.231 13.946 13.330 19.101 18.646	28.263 27.717 26.759 31.280 32.367	19.815 19.237 20.197 19.061 19.419	1.00 31.01 1.00 33.77 1.00 36.32 1.00 27.07 1.00 26.91	A A A A
ATOM ATOM ATOM ATOM ATOM ATOM	648 649 650 651 652 653	CA CB CG CD OE1 OE2	GLU GLU GLU GLU GLU	85 85 85 85 85	21.367 22.469 21.952 23.062 22.981 24.018	31.843 31.075 29.927 29.140 28.955 28.702	19.785 20.523 21.370 22.070 23.305 21.391	1.00 27.28 1.00 29.14 1.00 36.53 1.00 42.07 1.00 44.49 1.00 44.75	A A A A A
ATOM ATOM ATOM ATOM ATOM ATOM	655 656 657 658 659 660	O N CA C O N	GLU GLY GLY GLY GLY LYS	85 86 86 86 87	22.845 21.410 21.828 23.140 23.925 23.383	33.378 32.167 32.717 32.155 32.897 30.861	18.661 17.389 16.111 15.589 14.991 15.798	1.00 26.25 1.00 26.07 1.00 26.47 1.00 26.86 1.00 29.40 1.00 24.80	A A A A A
ATOM ATOM ATOM ATOM ATOM ATOM ATOM	661 662 663 665 665 667	CA CB CG CD CE NZ C	LYS LYS LYS LYS LYS LYS	87 87 87 87 87 87	24.630 25.139 25.231 26.236 27.341 28.131 24.542	30.231 29.249 29.817 29.057 29.981 29.426 29.479	15.355 16.414 17.791 18.627 19.117 20.248 14.028	1.00 23.74 1.00 20.75 1.00 19.79 1.00 23.47 1.00 25.56 1.00 28.30 1.00 23.80	A A A A A
ATOM ATOM ATOM ATOM ATOM ATOM ATOM	668 669 670 671 672 673 674	O N CA CB CG1 CG2	LYS VAL VAL VAL VAL VAL VAL	87 88 88 88 88 88	23.444 25.708 25.792 26.983 27.025 26.862 26.094	29.157 29.229 28.439 28.837 27.919 30.293 27.054	13.557 13.418 12.182 11.263 10.055 10.823 12.743	1.00 23.85 1.00 22.55 1.00 20.90 1.00 18.57 1.00 17.56 1.00 17.32 1.00 20.89	A A A A A
ATOM ATOM ATOM ATOM ATOM	675 676 677 678 679	O N CA CB	VAL VAL VAL VAL VAL	88 89 89 89	26.995 25.355 25.545 24.282 24.446	26.904 26.047 24.698 24.231 22.783	13.584 12.290 12.807 13.596 14.042	1.00 19.91 1.00 20.24 1.00 20.70 1.00 20.44 1.00 20.47	A A A A

Fig. 2A-11

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	681 681 682 688 688 688 689 699 699 699 700 700 700 700 700 700 700 700 700 7	CG2 CONCACBCCONCACBCCONCCCCONCCCCCCCCCCCCCCC	VAL VAL LEU LEU LEU LEU LEU CYS CYS CYS CYS ASP ASP ASP ASP ASP ASP ASP ARG ARG ARG ARG ARG	89 89 90 90 90 90 91 91 91 91 92 92 92 93 93 93 93 93	24.054 25.870 25.033 27.096 27.553 29.030 29.474 30.958 28.056 26.471 24.661 24.661 24.661 24.661 24.661 24.7517 28.882 29.926 29.926 29.592 31.084 26.741 26.235 25.139 25.296 26.745 26.861 28.233 28.748	25.139 23.678 23.374 23.160 22.146 22.386 23.858 23.947 24.552 20.774 20.475 19.959 18.630 17.477 16.642 15.531 14.604 13.815 13.260 13.746 14.753 14.921 13.923 13.168 11.669 11.168 10.074 9.947 8.846	14.807 11.730 10.884 11.771 10.819 10.468 10.350 10.019 9.265 11.488 12.473 10.957 11.496 11.665 12.697 10.588 9.409 11.148 10.385 11.291 10.522 9.449 10.989 9.698 8.504 10.440 9.830 10.107 10.049 9.024 8.560 8.020	1.00 18.39 1.00 19.98 1.00 19.26 1.00 20.84 1.00 21.88 1.00 20.78 1.00 19.33 1.00 16.38 1.00 22.30 1.00 23.77 1.00 22.30 1.00 21.39 1.00 21.39 1.00 21.39 1.00 21.52 1.00 21.52 1.00 27.62 1.00 27.62 1.00 27.62 1.00 27.62 1.00 27.62 1.00 27.64 1.00 27.64 1.00 28.87 1.00 28.87 1.00 28.83 1.00 24.14 1.00 25.33 1.00 24.14 1.00 25.33 1.00 36.01 1.00 37.75	# # # # # # # # # # # # # # # # # # #
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	713 714 715 716 717 718 719 720 721 722 723 724 725 727 728 727 731 733 733 736	NH2 C O N CA CB CCD1 CCE2 CZ OH C O N CA CGB CGC1 C O N CA CGC CD1 C O N	ARG ARG TYYRR TYYRR TYYRR TYYRR TYYRR TYYRLE ILLE ILLE ILLE ILLE ILLE	93334444444444455555555556	30.016 23.769 23.652 22.731 21.379 21.077 19.914 19.855 18.800 18.886 17.795 16.760 20.392 20.738 19.170 18.161 16.851 16.064 17.165 15.929 18.611 18.399 19.247	8.822 13.629 14.224 13.346 13.715 15.167 15.812 15.797 16.411 16.458 17.077 17.051 17.691 12.738 11.590 13.186 12.300 13.324 14.389 15.142 11.527 10.315 12.223	7.636 10.336 11.405 9.561 9.936 9.522 10.268 11.661 12.347 9.574 10.246 11.629 12.281 9.044 9.024 8.461 8.131 9.414 7.434 6.961 7.228 7.139 6.292	1.00 38.28 1.00 22.98 1.00 22.48 1.00 21.60 1.00 20.59 1.00 19.09 1.00 17.92 1.00 21.42 1.00 21.48 1.00 22.59 1.00 23.61 1.00 20.62 1.00 21.83 1.00 20.80 1.00 20.01 1.00 20.01 1.00 20.01 1.00 20.01 1.00 20.99 1.00 22.45 1.00 24.25	F F F F F F F F F F F F F F F F F F F

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ATOM 738 ATOM 739 ATOM 740 ATOM 741 ATOM 741 ATOM 742 ATOM 743 ATOM 744 ATOM 745 ATOM 746 ATOM 746 ATOM 747 ATOM 748 ATOM 749 ATOM 750 ATOM 751 ATOM 751 ATOM 753 ATOM 754 ATOM 755 ATOM 756 ATOM 757 ATOM 758 ATOM 757 ATOM 760 ATOM 761 ATOM 761 ATOM 762 ATOM 761 ATOM 763 ATOM 763 ATOM 764 ATOM 765 ATOM 766 ATOM 767 ATOM 768 ATOM 766 ATOM 767 ATOM 768 ATOM 769 ATOM 769 ATOM 770 ATOM 771 ATOM 772 ATOM 773 ATOM 774 ATOM 775 ATOM 776 ATOM 777 ATOM 778 ATOM 778 ATOM 778 ATOM 778 ATOM 781 ATOM 782 ATOM 783 ATOM 784 ATOM 785 ATOM 786 ATOM 787 ATOM 786 ATOM 787 ATOM 787 ATOM 788
CB ASP CG ASP OD1 ASP OD2 ASP C ASP O ASP N SER CA SER CB SER OG SER N SER CA S
0 20.603 0 21.773 0 21.319 1 21.416 1 21.959 1 22.783 1 24.146 1 24.320 1 25.595 1 26.550 1 26.703 1 27.968 1 20.865 1 20.880 2 19.921 2 18.835 2 19.209 2 19.516 2 20.382 2 18.803 2 17.735
6.754 5.602 7.450 6.896 8.020 8.463 9.498 7.257 4.829 6.355 6.476 4.308 3.304 4.353 3.671 4.242 5.611 6.153 3.425 5.313 2.753 2.753 2.753 2.753 2.154 2.399
5.218 5.218 6.218 6.218 6.218 6.218 6.219 6.
1.00 23.05 1.00 25.96 1.00 27.19 1.00 27.07 1.00 25.89 1.00 21.62 1.00 22.15 1.00 19.34 1.00 20.14 1.00 21.21 1.00 26.38 1.00 19.98 1.00 17.31 1.00 20.55 1.00 20.64 1.00 21.56 1.00 22.14 1.00 21.36 1.00 22.14 1.00 21.36 1.00 22.14 1.00 21.36 1.00 22.14 1.00 21.36 1.00 22.14 1.00 21.36 1.00 22.14 1.00 21.36 1.00 22.14 1.00 21.36 1.00 22.15 1.00 22.12 1.00 24.85 1.00 24.85 1.00 24.85 1.00 24.85 1.00 20.77 1.00 18.96 1.00 20.92 1.00 19.22 1.00 13.31 1.00 17.15 1.00 18.18 1.00 19.33 1.00 19.81 1.00 20.84 1.00 20.85 1.00 22.58 1.00 22.58 1.00 22.58 1.00 22.58 1.00 22.59 1.00 25.20 1.00 27.87 1.00 30.86 1.00 30.86 1.00 35.49 1.00 26.37 1.00 25.92
A A A A A A A A A A A A A A A A A A A

Fig. 2A-13

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Fig. 2A-15

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7 TO M	000	OES	CTII	110	7 515	13.359	6.798	1.00 38.18	71
ATOM ATOM	908 909	OE2 C	GLU GLU	118 118	7.515 9.457	13.339	11.741	1.00 38.18	A A
ATOM	910	Õ	GLU	118	9.253	14.289	12.226	1.00 19.89	A
ATOM	911	N	PHE	119	9.179	12.052	12.397	1.00 16.90	A
ATOM	912	CA	PHE	119	8.616	12.072	13.740	1.00 14.30	A
ATOM	913	CB	PHE	119	8.141	10.680	14.123	1.00 13.75	Α
ATOM	914	CG	PHE	119	7.379	10.647	15.399	1.00 12.63	Α
MOTA	915	CD1	PHE	119	5.987	10.669	15.392	1.00 13.78	Α
ATOM	916	CD2	PHE	119	8.046	10.597	16.619	1.00 11.27	Α
MOTA	917	CE1	PHE	119	5.271	10.648	16.594	1.00 11.57	Α
MOTA	918	CE2	PHE	119	7.345	10.575	17.822	1.00 9.33	A
ATOM	919	CZ	PHE	119	5.957	10.599	17.809	1.00 11.88	A
ATOM	920	C	PHE	119	9.655	12.556	14.754	1.00 12.85	A
ATOM ATOM	921 922	O N	PHE ALA	119 120	9.328 10.906	13.276 12.147	15.692 14.567	1.00 12.34 1.00 12.61	A A
ATOM	923	CA	ALA	120	12.008	12.147	15.442	1.00 12.01	A
ATOM	924	CB	ALA	120	13.182	11.624	15.248	1.00 12.20	A
ATOM	925	C	ALA	120	12.457	13.992	15.155	1.00 14.06	A
ATOM	926	Ŏ	ALA	120	13.087	14.631	15.993	1.00 13.64	A
MOTA	927	N	ILE	121	12.130	14.487	13.961	1.00 15.83	A
ATOM	928	CA	ILE	121	12.510	15.829	13.514	1.00 16.62	Α
MOTA	929	CB	ILE	121	12.720	15.820	11.954	1.00 14.14	Α
MOTA	930	CG2	ILE	121	12.529	17.186	11.357	1.00 14.79	A
ATOM	931	CG1	ILE	121	14.126	15.341	11.628	1.00 13.16	A
MOTA	932 933	CD1	ILE	121 121	15.080	15.491	12.777	1.00 13.15 1.00 17.84	A
ATOM ATOM	933	C 0	ILE ILE	121	11.499 11.887	16.916 18.014	13.907 14.333	1.00 17.84 1.00 18.70	A A
ATOM	935	N	ASN	122	10.213	16.603	13.767	1.00 18.70	A
ATOM	936	CA	ASN	122	9.144	17.537	14.079	1.00 20.53	A
ATOM	937	CB	ASN	122	9.164	17.927	15.562	1.00 19.72	A
MOTA	938	ĊĠ	ASN	122	7.954	18.761	15.967	1.00 18.32	Α
ATOM	939	OD1	ASN	122	6.902	18.700	15.333	1.00 15.61	Α
MOTA	940	ND2	ASN	122	8.109	19.550	17.025	1.00 17.45	A
MOTA	941	C	ASN	122	9.280	18.784	13.205	1.00 23.78	A
ATOM	942	0	ASN	122	9.154	19.919	13.684	1.00 26.55	A
ATOM	943 944	N	GLY	123 123	9.553 9.670	18.564 19.663	11.920 10.969	1.00 25.65 1.00 25.27	A A
ATOM ATOM	944	CA C	GLY GLY	123	10.977	20.428	10.860	1.00 23.27	A
ATOM	946	Ö	GLY	123	11.023	21.487	10.243	1.00 24.04	A
ATOM	947	N	LEU	124	12.043	19.914	11.450	1.00 24.25	A
ATOM	948	CA	LEU	124	13.309	20.607	11.368	1.00 25.19	A
MOTA	949	CB	LEU	124	13.963	20.703	12.738	1.00 23.50	A
MOTA	950	CG	LEU	124	15.246	21.532	12.711	1.00 22.78	Α
ATOM	951	CD1	LEU	124	15.001	22.839	11.979	1.00 23.39	A
ATOM	952	CD2	LEU	124	15.701	21.784	14.129	1.00 24.20	A
ATOM ATOM	953 954	C	LEU	124 124	14.262 14.865	19.924 18.900	10.404 10.729	1.00 26.33 1.00 29.25	A
ATOM	955	O N	LEU TYR	124	14.863	20.481	9.206	1.00 29.23	A A
ATOM	956	CA	TYR	125	15.283	19.923	8.212	1.00 24.02	A
ATOM	957	CB	TYR	125	14.594	19.748	6.861	1.00 28.22	A
ATOM	958	CG	TYR	125	13.328	18.946	6.938	1.00 33.57	A
ATOM	959	CD1	TYR	125	13.350	17.555	6.834	1.00 33.93	A
ATOM	960	CE1	TYR	125	12.184	16.816	6.941	1.00 35.41	Α
MOTA	961	CD2	TYR	125	12.102	19.579	7.148	1.00 36.24	A
ATOM	962	CE2	TYR	125	10.933	18.850	7.257	1.00 36.63	A
MOTA	963	CZ	TYR	125	10.981	17.472	7.153	1.00 37.06	A
MOTA	964	OH	TYR	125	9.813	16.759	7.270	1.00 42.14	A

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ATOM	965	С	TYR	125	16.425	20.890	8.056	1.00 23.55	Α
MOTA	966	0	TYR	125	16.323	22.049	8.442	1.00 25.49	Α
ATOM	967	N	PRO	126	17.544	20.417	7.499	1.00 20.61	Α
ATOM	968	CD	PRO	126	17.836	19.054	7.028	1.00 18.09	A
ATOM	969	CA	PRO	126	18.679	21.321	7.319	1.00 17.72	A
ATOM	970	CB	PRO	126	19.759	20.419	6.715	1.00 18.63	A
ATOM	971	CG	PRO	126	19.327	19.012	7.070	1.00 18.55	A
ATOM	972	С	PRO	126	18.293	22.473	6.388	1.00 16.44	A
ATOM	973	0	PRO	126	17.321	22.385	5.643	1.00 16.25	A
ATOM	974	N	ASP	127	19.040	23.565	6.453	1.00 15.85	Α
ATOM	975	CA	ASP	127	18.776	24.695	5.583	1.00 16.90	A
MOTA	976	CB	ASP	127	19.154	26.002	6.279	1.00 18.60	Α
MOTA	977	CG	ASP	127	17.970	26.642	6.984	1.00 21.07	Α
ATOM	978	OD1		127	16.959	26.964	6.306	1.00 22.71	Α
ATOM	979		ASP	127	18.047	26.820	8.219	1.00 18.29	A
ATOM	980	C	ASP	127	19.613	24.491	4.324	1.00 18.15	A
ATOM	981	0	ASP	127	19.393	25.151	3.310	1.00 19.18	A
ATOM	982	N	LEU	128	20.567	23.557	4.413	1.00 18.37	A
MOTA	983	CA	LEU	128	21.469	23.185	3.318	1.00 16.53	A
ATOM ATOM	984 985	CB	LEU	128	22.523 23.762	24.286	3.079 2.236	1.00 15.81	A
ATOM	986	CG CD1	LEU LEU	128 128	23.762	23.924 23.972	0.764	1.00 14.34 1.00 16.21	A
ATOM	987		LEU	128	24.919	24.858	2.515	1.00 16.21 1.00 8.51	A A
ATOM	988	CDZ	LEU	128	22.174	21.884	3.707	1.00 16.96	A
ATOM	989	Ö	LEU	128	22.682	21.771	4.818	1.00 17.05	Ā
ATOM	990	N	THR	129	22.200	20.905	2.800	1.00 17.03	A
ATOM	991	CA	THR	129	22.861	19.614	3.062	1.00 19.58	A
ATOM	992	CB	THR	129	21.870	18.429	2.981	1.00 19.13	A
ATOM	993	OG1	THR	129	21.084	18.375	4.178	1.00 21.93	A
ATOM	994	CG2	THR	129	22.623	17.116	2.826	1.00 18.43	A
ATOM	995	С	THR	129	23.955	19.381	2.026	1.00 18.88	A
ATOM	996	0	THR	129	23.665	19.248	0.837	1.00 19.90	Α
MOTA	997	N	ILE	130	25.204	19.317	2.472	1.00 17.60	Α
ATOM	998	CA	ILE	130	26.334	19.119	1.561	1.00 16.04	A
ATOM	999	CB	ILE	130	27.640	19.749	2.148	1.00 16.79	A
ATOM	1000	CG2	ILE	130	28.863	19.240	1.382	1.00 17.88	A
ATOM	1001	CG1	ILE	130	27.563	21.283	2.111	1.00 17.22	A
ATOM	1002	CD1	ILE	130	27.946	21.898	0.759	1.00 15.20	A
ATOM ATOM	1003	C	ILE	130	26.591	17.638	1.289	1.00 14.63 1.00 13.93	A
ATOM	1004 1005	O N	ILE TYR	130 131	27.029 26.327	16.916 17.187	2.169 0.072	1.00 13.93 1.00 13.78	A A
ATOM	1005	CA	TYR	131	26.568	15.796	-0.261	1.00 13.78	A
ATOM	1007	CB	TYR	131	25.462	15.258	-1.156	1.00 14.00	A
ATOM	1008	ĊĠ	TYR	131	25.706	13.816	-1.517	1.00 18.24	A
ATOM	1009	CD1	TYR	131	25.470	12.811	-0.592	1.00 19.69	A
ATOM	1010	CE1	TYR	131	25.728	11.480	-0.893	1.00 20.72	A
ATOM	1011	CD2	TYR	131	26.210	13.457	-2.770	1.00 20.82	A
MOTA	1012	CE2	TYR	131	26.471	12.123	-3.083	1.00 20.33	A
ATOM .	1013	CZ	TYR	131	26.226	11.141	-2.133	1.00 20.01	A
MOTA	1014	OH	TYR	131	26.484	9.821	-2.407	1.00 22.90	Α
MOTA	1015	C	TYR	131	27.919	15.559	-0.948	1.00 13.59	Α
ATOM	1016	0	TYR	131	28.117	15.869	-2.124	1.00 13.47	Α
ATOM	1017	N	LEU	132	28.851	15.005	-0.198	1.00 12.69	A
ATOM	1018	CA	LEU	132	30.158	14.712	-0.736	1.00 14.00	A
ATOM	1019	CB	LEU	132	31.146	14.463	0.405	1.00 10.84	A
ATOM	1020	CG CD1	LEU	132	31.323	15.688	1.306	1.00 11.12	A
ATOM	1021	CDI	LEU	132	32.263	15.370	2.455	1.00 15.11	A

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ATOM	1022	CD2	LEU	132	31.883	16.845	0.487	1.00 10.94	A
ATOM ATOM	1023 1024	C O	LEU LEU	132 132	30.033 30.097	13.489 12.337	-1.638 -1.186	1.00 16.10 1.00 15.70	A A
MOTA	1025	N	ASN	133	29.823	13.766	-2.920	1.00 16.64	Α
ATOM	1026	CA	ASN	133	29.679	12.745	-3.955	1.00 16.26	A
ATOM ATOM	1027 1028	CB CG	ASN ASN	133 133	29.146 28.209	13.401 12.515	-5.222 -5.977	1.00 15.66 1.00 15.86	A A
ATOM	1029	OD1	ASN	133	28.399	11.303	-6.033	1.00 19.55	A
ATOM	1030	ND2	ASN	133	27.178	13.105	-6.562	1.00 18.53	Α
ATOM	1031 1032	C	ASN	133	30.986 31.804	12.006	-4.289	1.00 16.44 1.00 16.93	A
ATOM ATOM	1032	O N	ASN VAL	133 134	31.004	12.495 10.822	-5.070 -3.711	1.00 16.93	A A
ATOM	1034	CA	VAL	134	32.376	10.026	-3.959	1.00 15.03	Α
ATOM	1035	CB	VAL	134	33.093	9.689	-2.642	1.00 13.84	A
ATOM ATOM	1036 1037	CG1 CG2	VAL VAL	134 134	32.673 34.591	8.311 9.738	-2.147 -2.850	1.00 15.51 1.00 12.76	A A
ATOM	1038	C	VAL	134	32.027	8.723	-4.679	1.00 16.69	A
MOTA	1039	0	VAL	134	31.000	8.111	-4.386	1.00 17.63	Α
ATOM ATOM	1040 1041	N CA	SER SER	135 135	32.868 32.584	8.290 7.059	-5.618 -6.348	1.00 15.07 1.00 15.37	A A
ATOM	1041	CB	SER	135	33.284	7.053	-7.711	1.00 15.13	A
ATOM	1043	OG	SER	135	34.680	6.860	-7.562	1.00 19.69	Α
ATOM ATOM	1044 1045	C	SER SER	135 135	33.069 34.021	5.894 6.034	-5.530 -4.761	1.00 15.42 1.00 16.48	A A
ATOM	1045	N	ALA	136	32.422	4.745	-5.703	1.00 15.08	A
MOTA	1047	CA	ALA	136	32.785	3.539	-4.973	1.00 15.69	Α
ATOM	1048	CB	ALA	136	32.012	2.351 3.232	-5.517 -4.982	1.00 13.23 1.00 16.27	A
ATOM ATOM	1049 1050	C 0	ALA ALA	136 136	34.282 34.835	2.849	-3.940	1.00 16.27	A A
ATOM	1051	N	GLU	137	34.936	3.417	-6.136	1.00 16.13	Α
ATOM	1052	CA	GLU	137	36.373	3.128	-6.295	1.00 16.92	A
ATOM ATOM	1053 1054	CB CG	GLU GLU	137 137	36.769 36.099	3.211 2.193	-7.761 -8.627	1.00 19.08 1.00 21.24	A A
ATOM	1055	CD	GLU	137	34.697	2.606	-9.026	1.00 26.03	A
ATOM	1056	OE1	GLU	137	34.254	3.703	-8.607	1.00 26.26	A
ATOM ATOM	1057 1058	OE2 C	GLU GLU	137 137	34.050 37.329	1.830 4.010	-9.762 -5.519	1.00 24.36 1.00 17.18	A A
ATOM	1059	ŏ	GLU	137	38.293	3.529	-4.914	1.00 18.42	A
ATOM	1060	N	VAL	138	37.102	5.315	-5.592	1.00 16.65	A
ATOM ATOM	1061 1062	CA CB	VAL VAL	138 138	37.930 37.571	6.286 7.729	-4.880 -5.317	1.00 13.99 1.00 12.36	A A
ATOM	1063	CG1	VAL	138	38.315	8.722	-4.480	1.00 7.64	A
ATOM	1064	CG2		138	37.876	7.909	-6.812	1.00 11.17	A
ATOM ATOM	1065 1066	C 0	VAL VAL	138 138	37.650 38.566	6.107 6.069	-3.388 -2.577	1.00 12.75 1.00 12.84	A A
ATOM	1067	N	GLY	139	36.372	5.979	-3.040	1.00 12.35	A
ATOM	1068	CA	GLY	139	35.998	5.790	-1.650	1.00 13.46	Α
ATOM ATOM	1069 1070	C 0	GLY GLY	139 139	36.696 37.247	4.593 4.681	-1.031 0.071	1.00 12.84 1.00 11.91	A A
ATOM	1070	N	ARG	140	36.675	3.469	-1.743	1.00 14.34	Ā
ATOM	1072	CA	ARG	140	37.314	2.239	-1.268	1.00 15.31	Α
ATOM	1073 1074	CB	ARG	140 140	37.279	1.164 -0.052	-2.357 -2.045	1.00 14.32 1.00 13.59	A A
ATOM ATOM	1074	CG CD	ARG ARG	140	38.142 38.881	-0.052	-3.270	1.00 15.39	A A
ATOM	1076	NE	ARG	140	38.006	-0.522	-4.439	1.00 16.56	A
ATOM	1077	CZ	ARG	140	38.406	-0.294	-5.685	1.00 14.11	A
ATOM	1078	инт	ARG	140	39.684	-0.029	-5.942	1.00 10.53	Α

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ATOM 1079 NHZ ARG 140 37.520 -0.316 -6.676 1.00 10.78 A ATOM 1080 C ARG 140 39.179 2.155 0.239 1.00 18.73 A ATOM 1081 O ARG 140 39.179 2.155 0.239 1.00 18.73 A ATOM 1082 N GLU 141 39.520 3.020 -1.831 1.00 18.85 A ATOM 1083 CA GLU 141 40.926 3.318 -1.651 1.00 19.21 A ATOM 1085 CG GLU 141 41.460 4.071 -2.871 1.00 19.22 A ATOM 1086 CC GLU 141 41.460 4.071 -2.871 1.00 19.92 A ATOM 1086 CC GLU 141 41.946 1.850 -3.965 1.00 23.75 A ATOM 1088 OE2 GLU 141 41.946 1.850 -3.965 1.00 23.75 A ATOM 1089 C GLU 141 41.946 1.850 -3.3965 1.00 23.75 A ATOM 1089 C GLU 141 41.69 4.131 -0.389 1.00 22.21 A ATOM 1080 C GLU 141 41.69 4.131 -0.389 1.00 22.21 A ATOM 1090 C GLU 141 41.69 4.131 -0.389 1.00 22.21 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 22.22 A ATOM 1092 CA ARG 142 40.258 5.057 -0.084 1.00 22.42 A ATOM 1093 CB ARG 142 39.525 7.137 1.013 1.00 20.34 A ATOM 1094 CG ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1096 NE ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1097 CZ ARG 142 38.366 9.932 -0.355 1.00 20.53 A ATOM 1098 NHL ARG 142 39.823 9.493 0.226 1.00 20.53 A ATOM 1099 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1099 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1099 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.05 3 A ATOM 1099 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.05 3 A ATOM 1090 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.05 3 A ATOM 1090 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.05 3 A ATOM 1090 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.75 3 A ATOM 1091 NHZ ARG 142 39.897 8.047 -0.125 1.00 20.75 3 A ATOM 1090 NHZ ARG 142 39.898 31.30 8.35 1.30 1.00 21.11 A ATOM 1100 C ARG 142 39.898 31.30 8.35 1.30 1.00 21.11 A ATOM 1101 C ARG 142 40.898 4.332 2.333 1.00 22.51 A ATOM 1101 C ARG 142 40.899 8.494 8.332 2.333 1.00 22.55 A ATOM 1104 CB ILE 143 38.968 3.568 3.568 3.503 1.00 23.18 A ATOM 1105 CG2 ILE 143 39.898 4.332 2.333 1.00 22.70 A ATOM 1106 CG1 ILE 144 41.898 4.382 2.383 1.00 27.56 A ATOM 1107 CD1 ILE 144 42.809 3.3899 3.120 1.00 25.30 A ATOM 1108 C ILE 144 42.8
ATOM 1081 O ARG 140 39.179 2.155 0.239 1.00 18.73 A ATOM 1082 N GLU 141 39.520 3.020 -1.831 1.00 18.85 A ATOM 1083 CA GLU 141 40.926 3.318 -1.651 1.00 19.21 A ATOM 1085 CG GLU 141 41.460 4.071 -2.871 1.00 19.21 A ATOM 1085 CG GLU 141 41.460 4.071 -2.871 1.00 19.22 A ATOM 1086 CD GLU 141 41.946 1.850 -3.965 1.00 23.75 A ATOM 1087 0E1 GLU 141 41.946 1.850 -3.965 1.00 23.75 A ATOM 1088 0E2 GLU 141 43.946 1.850 -3.965 1.00 23.75 A ATOM 1089 C GLU 141 41.946 1.850 -3.392 1.00 23.49 A ATOM 1089 C GLU 141 41.69 4.131 -0.389 1.00 22.42 A ATOM 1099 C GLU 141 41.69 4.131 -0.389 1.00 22.21 A ATOM 1090 C GLU 141 41.69 4.131 -0.389 1.00 22.42 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 22.42 A ATOM 1092 CA ARG 142 40.258 5.057 -0.084 1.00 22.42 A ATOM 1093 CB ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1097 CZ ARG 142 38.566 9.932 -0.355 1.00 20.08 A ATOM 1097 CZ ARG 142 38.566 9.932 -0.355 1.00 20.53 A ATOM 1099 NH2 ARG 142 39.823 10.835 -1.319 1.00 17.90 A ATOM 1099 NH2 ARG 142 39.823 10.835 -1.319 1.00 17.90 A ATOM 1090 NH2 ARG 142 39.823 10.835 -1.319 1.00 17.90 A ATOM 1090 NH2 ARG 142 39.823 10.835 -1.319 1.00 17.90 A ATOM 1090 NH2 ARG 142 39.823 10.835 -1.319 1.00 17.90 A ATOM 1090 NH2 ARG 142 39.828 11.47 -1.827 1.00 14.20 A ATOM 1009 NH2 ARG 142 39.828 11.47 -1.827 1.00 14.20 A ATOM 1000 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1000 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1100 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1104 CB ILE 143 39.898 2.561 5.152 1.00 23.18 A ATOM 1105 CCI ILE 143 39.898 2.561 5.152 1.00 25.38 A ATOM 1106 CCI ILE 144 42.203 0.782 2.383 3.100 22.57 A ATOM 1110 CRILE 144 42.203 0.782 2.383 3.100 22.57 A ATOM 111
ATOM 1082 N GLU 141 39.520 3.020 -1.831 1.00 18.85 A ATOM 1083 CA GLU 141 40.926 3.318 -1.651 1.00 19.21 A ATOM 1084 CB GLU 141 41.460 4.071 -2.871 1.00 19.22 A ATOM 1085 CG GLU 141 41.460 4.071 -2.871 1.00 20.18 A ATOM 1087 OEI GLU 141 41.464 3.264 -4.159 1.00 23.75 A ATOM 1087 OEI GLU 141 41.996 1.850 -3.965 1.00 23.75 A ATOM 1088 OEZ GLU 141 41.344 0.894 -4.450 1.00 23.24 A ATOM 1089 C GLU 141 41.696 1.678 -3.332 1.00 23.49 A ATOM 1089 OEZ GLU 141 42.163 3.915 0.311 1.00 24.64 A ATOM 1090 O GLU 141 42.163 3.915 0.311 1.00 24.64 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 22.42 A ATOM 1092 CA ARG 142 40.401 5.890 1.114 1.00 21.25 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.34 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.34 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.93 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.93 A ATOM 1095 CD ARG 142 39.823 9.493 0.0226 1.00 20.93 A ATOM 1095 CD ARG 142 39.823 9.493 0.026 1.00 20.93 A ATOM 1095 CD ARG 142 39.523 9.493 0.026 1.00 20.93 A ATOM 1095 CD ARG 142 39.328 11.417 -1.827 1.00 17.90 A ATOM 1098 NH ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1090 C ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1010 C ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 12.55 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1102 N ILE 143 39.566 2.776 3.399 1.00 22.57 A ATOM 1102 N ILE 143 39.566 2.776 3.399 1.00 22.57 A ATOM 1102 C ILE 144 41.666 1.408 3.243 1.00 27.56 A ATOM 1112 CB ILE 144 41.666 1.408 3.243 1.00 27.56 A ATOM 1112 CB ASP 1
ATOM 1084 CB GLU 141 40.926 3.318 -1.651 1.00 19.21 A ATOM 1084 CB GLU 141 41.460 4.071 -2.871 1.00 19.92 A ATOM 1085 CG GLU 141 41.460 4.071 -2.871 1.00 19.92 A ATOM 1086 CD GLU 141 41.460 4.071 -2.871 1.00 19.92 A ATOM 1087 OEI GLU 141 41.996 1.850 -3.965 1.00 23.75 A ATOM 1088 OE2 GLU 141 41.996 1.850 -3.965 1.00 25.20 A ATOM 1089 C GLU 141 43.063 1.678 -3.332 1.00 25.20 A ATOM 1089 C GLU 141 41.69 4.131 -0.389 1.00 22.21 A ATOM 1090 O GLU 141 42.163 3.915 0.311 1.00 24.64 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 22.22 A ATOM 1092 CA ARG 142 39.525 7.137 1.013 1.00 21.25 A ATOM 1093 CB ARG 142 39.525 7.137 1.013 1.00 20.34 A ATOM 1095 CD ARG 142 39.623 9.493 0.226 1.00 20.93 A ATOM 1095 CD ARG 142 39.623 9.493 0.226 1.00 20.93 A ATOM 1097 CZ ARG 142 38.366 9.932 -0.355 1.00 20.53 A ATOM 1098 NH1 ARG 142 39.328 11.417 -1.827 1.00 17.90 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 17.90 A ATOM 1090 NH2 ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1090 NH2 ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1090 NH2 ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1090 NH2 ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1000 C ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1001 O ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1000 C ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1000 C ARG 142 39.328 11.417 -1.827 1.00 18.04 A ATOM 1001 O ARG 142 40.039 5.141 2.389 1.00 22.51 A ATOM 1000 C BRIE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1001 C BRIE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1002 C BRIE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1003 C BRIE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1104 CB ILE 143 39.989 2.561 5.152 1.00 23.18 A ATOM 1105 CG2 ILE 143 39.989 2.561 5.152 1.00 27.56 A ATOM 1107 CD1 ILE 143 39.989 2.561 5.152 1.00 27.56 A ATOM 1108 C ILE 143 39.989 2.561 5.152 1.00 27.56 A ATOM 1107 CD1 ILE 144 43.669 1.389 3.999 1.00 21.11 A ATOM 1108 C ILE 143 39.989 2.561 5.152 1.00 27.96 A ATOM 1107 CD1 ILE 144 42.203 0.782 1.991 1.00 27.66 A ATOM 1110 C ARG 144 42.203 0.782 1.991 1.00 27.56 A ATO
ATOM 1085 CG GLU 141 41.464 3.264 -4.159 1.00 29.2 A ATOM 1086 CD GLU 141 41.946 1.850 -3.965 1.00 23.75 A ATOM 1087 OE1 GLU 141 41.996 1.850 -3.965 1.00 23.75 A ATOM 1088 OE2 GLU 141 41.344 0.894 -4.450 1.00 23.25 A ATOM 1089 C GLU 141 41.344 0.894 -4.450 1.00 23.49 A ATOM 1089 C GLU 141 41.69 4.131 -0.389 1.00 23.49 A ATOM 1089 C GLU 141 41.69 3.915 0.311 1.00 24.64 A ATOM 1090 O GLU 141 42.163 3.915 0.311 1.00 24.64 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 22.21 A ATOM 1092 CA ARG 142 39.525 7.137 1.013 1.00 20.344 A ATOM 1093 CB ARG 142 39.897 8.047 -0.125 1.00 20.34 A ATOM 1094 CG ARG 142 39.897 8.047 -0.125 1.00 20.34 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.93 A ATOM 1096 NE ARG 142 38.366 9.932 -0.355 1.00 20.93 A ATOM 1097 CZ ARG 142 38.366 9.932 -0.355 1.00 20.93 A ATOM 1098 NH1 ARG 142 39.328 11.417 -1.827 1.00 17.90 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 17.90 A ATOM 1090 NL ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1009 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1009 NH2 ARG 142 39.328 11.417 -1.827 1.00 12.21 A ATOM 1101 O ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1101 O ARG 142 39.388 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1107 CD1 ILE 143 39.956 2.778 2.333 1.00 22.51 A ATOM 1108 C ILE 143 39.756 2.778 2.384 1.00 27.56 A ATOM 1109 N ILE 144 42.203 0.782 1.282 1.00 18.17 A ATOM 1101 C R ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1102 C B ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1103 CA ILE 144 43.384 -0.149 2.198 1.00 27.56 A ATOM 1110 C B AFF 154 38.590 -6.199 -0.236 1.00 51.95 A ATOM 1110 C C B AFF 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1112 CB ILE 144 43.859 -0.699 -4.314 1.311 1.00 51.55 A ATOM 1112 CB ILE 144 43.859 -6.099 1.319 1.00 50.50 A ATOM 1126 C B AFF 154 38.590 -6.699 1.159 1.00 50.76 A ATOM 1126 C B AFF 154 38.590 -6.099 -0.23
ATOM 1086 CG GLU 141 41.464 3.264 -4.159 1.00 20.18 A ATOM 1087 OE1 GLU 141 41.996 1.850 -3.965 1.00 23.75 A ATOM 1088 OE2 GLU 141 41.344 0.894 -4.450 1.00 25.20 A ATOM 1089 C GLU 141 41.369 1.678 -3.332 1.00 23.49 A ATOM 1099 O GLU 141 41.696 1.810 0.389 1.00 22.21 A ATOM 1090 O GLU 141 42.163 3.915 0.311 1.00 24.64 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 22.22 A ATOM 1092 CA ARG 142 40.401 5.890 1.114 1.00 21.25 A ATOM 1093 CB ARG 142 39.525 7.137 1.013 1.00 20.34 A ATOM 1094 CG ARG 142 39.525 7.137 1.013 1.00 20.38 A ATOM 1095 CD ARG 142 39.623 9.493 0.226 1.00 20.08 A ATOM 1096 NE ARG 142 39.623 9.493 0.226 1.00 20.93 A ATOM 1097 CZ ARG 142 38.253 10.835 -1.319 1.00 17.90 A ATOM 1098 NH1 ARG 142 38.253 10.835 -1.319 1.00 17.90 A ATOM 1099 NH2 ARG 142 39.528 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 39.528 11.417 -1.827 1.00 18.04 A ATOM 1009 NE ARG 142 39.528 11.417 -1.827 1.00 18.04 A ATOM 1001 C ARG 142 40.697 5.301 3.40 1.00 19.58 A ATOM 1001 C ARG 142 40.697 5.301 3.40 1.00 19.58 A ATOM 1100 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.588 3.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 39.756 2.736 3.959 1.00 23.18 A ATOM 1107 CD1 ILE 143 39.756 2.736 3.959 1.00 25.38 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 25.38 A ATOM 1109 O ILE 144 41.686 1.408 3.243 1.00 27.56 A ATOM 1107 CD1 ILE 144 41.686 1.408 3.243 1.00 27.56 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 27.56 A ATOM 1109 C ARG 142 40.697 5.301 3.899 3.120 1.00 27.56 A ATOM 1107 CD1 ILE 144 41.686 1.408 3.243 1.00 27.56 A ATOM 1107 CD1 ILE 144 42.823 2.836 3.254 1.00 27.56 A ATOM 1107 CD1 ILE 144 43.829 2.836 3.254 1.00 27.56 A ATOM 1107 CD1 ILE 144 43.629 2.836 3.254 1.00 27.56 A ATOM 1110 C ARG 124 40.697 5.756 2.736 3.959 1.00 27.56 A ATOM 1112 CG ASP 154 38.590 -6.699 1.159 1.00 50.76 A ATOM 1120 CB ASP 154 38.590 -6.699 1.159 1.00 50.76 A
ATOM 1086 CD GLU 141 41.996 1.850 -3.965 1.00 23.75 A ATOM 1088 0E2 GLU 141 41.344 0.894 -4.450 1.00 25.20 A ATOM 1088 0E2 GLU 141 41.169 4.131 -0.389 1.00 22.21 A ATOM 1090 0 GLU 141 41.169 4.131 -0.389 1.00 22.21 A ATOM 1090 0 GLU 141 42.163 3.915 0.311 1.00 24.64 A ATOM 1091 N ARG 142 40.258 5.057 -0.084 1.00 24.62 A ATOM 1092 CA ARG 142 40.258 5.057 -0.084 1.00 22.42 A ATOM 1093 CB ARG 142 39.525 7.137 1.013 1.00 20.34 A ATOM 1094 CG ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1095 CD ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1096 CB ARG 142 39.897 8.047 -0.125 1.00 20.53 A ATOM 1097 CZ ARG 142 38.366 9.932 -0.355 1.00 20.93 A ATOM 1098 NH1 ARG 142 38.253 10.835 -1.319 1.00 17.90 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 37.054 11.120 -1.797 1.00 18.04 A ATOM 1100 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 C ARG 142 40.697 5.301 3.410 1.00 29.325 A ATOM 1103 CA ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 22.29 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 39.989 2.561 5.152 1.00 22.29 A ATOM 1107 CD1 ILE 143 39.989 2.561 5.152 1.00 22.29 A ATOM 1108 C ILE 143 39.989 2.561 5.152 1.00 22.29 A ATOM 1109 C ILE 143 39.989 2.561 5.152 1.00 27.37 A ATOM 1108 C ILE 144 41.666 1.408 3.243 1.00 27.37 A ATOM 1109 C ILE 144 41.666 1.408 3.243 1.00 27.37 A ATOM 1107 CD1 ILE 144 41.666 1.408 3.243 1.00 27.56 A ATOM 1118 C ASP 154 38.590 -6.99 -1.314 1.391 1.00 51.55 A ATOM 1110 C ASP 154 38.590 -6.99 -0.183 1.00 25.30 A ATOM 1112 CB ASP 154 38.590 -6.699 -0.183 1.00 25.30 A ATOM 1112 CB ASP 154 38.590 -6.699 -0.236 1.00 51.95 A ATOM 1120 CA ASP 154 38.590 -6.699 -0.236 1.00 51.95 A ATOM 1121 CG ASP 154 38.690 -6.699 -0.236 1.00 51.95 A ATOM 1122 CB ASP 154 38.690 -6.699 -0.236 1.00 51.95 A ATOM 1124 C ASP 154 38.690 -6.699 -0.236 1.00 51.95 A ATOM 1126 CB ASP 154 38.690 -6.699 -0.236 1.0
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ATOM 1092 CA ARG 142 40.401 5.890 1.114 1.00 21.25 A ATOM 1093 CB ARG 142 39.525 7.137 1.013 1.00 20.34 A ATOM 1094 CG ARG 142 39.697 8.047 -0.125 1.00 20.08 A ATOM 1095 CD ARG 142 39.623 9.493 0.226 1.00 20.93 A ATOM 1096 NE ARG 142 38.366 9.932 -0.355 1.00 20.53 A ATOM 1097 CZ ARG 142 38.366 9.932 -0.355 1.00 10.017.90 A ATOM 1098 NH1 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 37.054 11.120 -1.797 1.00 18.04 A ATOM 1009 NH2 ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1100 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 36.091 3.389 3.120 1.00 22.270 A ATOM 1107 CD1 ILE 143 39.989 2.561 5.152 1.00 22.29 A ATOM 1108 C ILE 143 39.989 2.561 5.152 1.00 22.73 A ATOM 1101 N ILE 144 40.510 2.235 2.994 1.00 24.57 A ATOM 1101 C ILE 143 39.989 2.561 5.152 1.00 25.38 A ATOM 1110 C ILE 144 40.650 2.235 2.994 1.00 24.57 A ATOM 1110 C ILE 144 41.666 1.408 3.243 1.00 27.37 A ATOM 1110 C ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1110 C ILE 144 42.203 0.782 1.921 1.00 28.27 A ATOM 1110 C ILE 144 41.662 0.016 1.238 1.00 27.56 A ATOM 1111 CA ILE 144 42.203 0.782 1.921 1.00 28.27 A ATOM 1112 CB ILE 144 43.884 -0.149 2.981 1.00 27.49 A ATOM 1112 CB ILE 144 43.894 -0.149 2.981 1.00 27.56 A ATOM 1112 CG ASP 154 39.699 -4.314 1.391 1.00 27.56 A ATOM 1112 CG ASP 154 38.699 -4.314 1.391 1.00 27.56 A ATOM 1112 CG ASP 154 38.699 -4.314 1.391 1.00 51.55 A ATOM 1120 CB ASP 154 38.699 -4.314 1.391 1.00 51.55 A ATOM 1121 CG ASP 154 38.699 -4.314 1.391 1.00 51.55 A ATOM 1122 CB ASP 154 38.699 -4.314 1.391 1.00 51.55 A ATOM 1122 CB ASP 154 38.609 -6.699 1.159 1.00 50.45 A ATOM 1123 CB CB ASP 154 38.609 -6.699 1.159 1.00 50.76 A ATOM 1124 C ASP 154 38.609 -6.699 1.159 1.00 50.76 A ATOM 1126 N GLN 155 36.6277 -7.663 0.251 1.00 50.76 A ATOM 1127 CA GLN 155 36.6277 -7.663 0.251 1.00 51.32 A
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ATOM 1094 CG ARG 142 39.897 8.047 -0.125 1.00 20.08 A ATOM 1095 CD ARG 142 39.623 9.493 0.226 1.00 20.93 A ATOM 1096 NE ARG 142 38.366 9.932 -0.355 1.00 20.53 A ATOM 1097 CZ ARG 142 38.366 9.932 -0.355 1.00 17.90 A ATOM 1098 NH1 ARG 142 38.353 10.835 -1.319 1.00 17.90 A ATOM 1099 NH2 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1100 C ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 37.411 2.621 3.155 1.00 23.25 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.25 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 35.062 2.778 2.182 1.00 18.17 A ATOM 1108 C ILE 143 39.989 2.561 5.152 1.00 24.57 A ATOM 1108 C ILE 143 39.989 2.561 5.152 1.00 25.38 A ATOM 1100 N ILE 143 39.989 2.561 5.152 1.00 26.98 A ATOM 1101 N ILE 144 40.510 2.235 2.984 1.00 27.37 A ATOM 1101 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1110 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1111 CA ILE 144 41.371 -0.449 -0.183 1.00 27.56 A ATOM 1112 CB ILE 144 41.381 -0.499 2.281 1.00 27.56 A ATOM 1112 CG ASP 154 38.599 -4.314 1.391 1.00 27.68 A ATOM 1112 CG ASP 154 38.599 -4.314 1.391 1.00 51.55 A ATOM 1120 CB ASP 154 38.599 -4.314 1.391 1.00 51.95 A ATOM 1121 CG ASP 154 38.599 -6.099 1.159 1.00 50.76 A ATOM 1122 CB ISE 144 43.859 -4.059 2.230 1.00 51.96 A ATOM 1124 C ASP 154 38.590 -6.099 1.159 1.00 50.76 A ATOM 1125 C ASP 154 38.590 -6.099 -0.236 1.00 53.09 A ATOM 1126 N GLN 155 36.627 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.627 -7.6699 1.159 1.00 50.76 A
ATOM 1095 CD ARG 142 39.623 9.493 0.226 1.00 20.93 A ATOM 1096 NE ARG 142 38.366 9.932 -0.355 1.00 20.53 A ATOM 1097 CZ ARG 142 38.253 10.835 -1.319 1.00 17.90 A ATOM 1098 NH1 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 37.054 11.120 -1.797 1.00 18.04 A ATOM 1100 C ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.255 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 36.091 3.389 3.120 1.00 22.29 A ATOM 1107 CD1 ILE 143 39.756 2.776 3.959 1.00 24.57 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1100 N ILE 144 40.510 2.235 2.984 1.00 25.38 A ATOM 1110 N ILE 144 40.510 2.235 2.984 1.00 25.38 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1112 CB ILE 144 42.203 0.782 1.912 1.00 27.49 A ATOM 1114 CG1 ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1112 CB ILE 144 43.384 -0.149 2.198 1.00 27.566 A ATOM 1111 CG ILE 144 43.384 -0.149 2.198 1.00 27.566 A ATOM 1111 CG ASP 154 38.523 -5.036 1.863 1.00 51.55 A ATOM 1112 CB ASP 154 38.523 -5.036 1.863 1.00 51.95 A ATOM 1120 CB ASP 154 38.590 -6.099 -4.314 1.391 1.00 51.55 A ATOM 1120 CB ASP 154 38.590 -6.099 -0.236 1.00 51.96 A ATOM 1121 CG ASP 154 38.590 -6.099 -0.236 1.00 51.96 A ATOM 1122 CD ASP 154 38.590 -6.099 -0.236 1.00 51.96 A ATOM 1124 C ASP 154 38.590 -6.699 -1.159 1.00 51.32 A ATOM 1126 CB GLN 155 36.677 -7.663 0.251 1.00 52.85 A
ATOM 1097 CZ ARG 142 38.253 10.835 -1.319 1.00 17.90 A ATOM 1098 NH1 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1100 C ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1103 CA ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 35.062 2.778 2.182 1.00 18.17 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1100 N ILE 144 40.510 2.235 2.984 1.00 25.38 A ATOM 1110 N ILE 144 40.510 2.235 2.984 1.00 27.37 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1112 CB ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1114 CG1 ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1115 CD1 ILE 144 43.384 -0.149 2.198 1.00 27.68 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.68 A ATOM 1117 O ILE 144 43.384 -0.149 2.198 1.00 27.68 A ATOM 1116 C ILE 144 43.384 -0.149 2.198 1.00 27.68 A ATOM 1117 O ILE 144 41.675 2.235 2.864 1.00 27.55 A ATOM 1118 N ASP 154 38.523 -5.036 1.863 1.00 51.78 A ATOM 1119 CA ASP 154 38.523 -5.036 1.863 1.00 51.78 A ATOM 1112 CB ASP 154 38.523 -5.036 1.863 1.00 51.78 A ATOM 1122 OD1 ASP 154 38.590 -6.199 -0.236 1.00 51.95 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 51.95 A ATOM 1126 N GLN 155 36.774 -7.663 0.251 1.00 51.32 A ATOM 1126 N GLN 155 36.774 -7.663 0.251 1.00 51.32 A ATOM 1126 N GLN 155 36.774 -7.663 0.251 1.00 51.32 A
ATOM 1098 NH1 ARG 142 39.328 11.417 -1.827 1.00 14.20 A ATOM 1099 NH2 ARG 142 37.054 11.120 -1.797 1.00 18.04 A ATOM 1100 C ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 36.091 3.389 3.120 1.00 22.29 A ATOM 1107 CD1 ILE 143 39.756 2.778 2.182 1.00 18.17 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1109 O ILE 143 39.989 2.561 5.152 1.00 25.38 A ATOM 1110 N ILE 144 40.510 2.235 2.984 1.00 26.98 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.49 A ATOM 1112 CB ILE 144 42.203 0.782 1.921 1.00 27.49 A ATOM 1113 CG2 ILE 144 43.384 -0.149 2.198 1.00 28.27 A ATOM 1115 CD1 ILE 144 41.062 0.016 1.238 1.00 27.56 A ATOM 1115 CD1 ILE 144 41.062 0.016 1.238 1.00 27.56 A ATOM 1116 C ILE 144 43.38.699 -4.314 1.391 1.00 27.56 A ATOM 1117 O ILE 144 43.629 2.836 3.919 1.00 27.68 A ATOM 1118 N ASP 154 38.509 -4.314 1.391 1.00 51.55 A ATOM 1119 CA ASP 154 38.593 -4.059 2.230 1.00 51.96 A ATOM 1120 CB ASP 154 38.798 -2.137 2.546 1.00 51.92 A ATOM 1122 CD ASP 154 38.798 -2.137 2.546 1.00 51.92 A ATOM 1122 CD ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1122 CD ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1124 C ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1126 N GLN 155 36.677 -7.663 0.251 1.00 51.32 A ATOM 1126 CB GLN 155 36.677 -7.663 0.251 1.00 51.32 A
ATOM 1099 NH2 ARG 142
ATOM 1100 C ARG 142 40.039 5.141 2.389 1.00 21.11 A ATOM 1101 O ARG 142 40.039 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1106 CG1 ILE 143 36.091 3.389 3.120 1.00 22.29 A ATOM 1107 CD1 ILE 143 35.062 2.778 2.182 1.00 18.17 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1109 O ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1100 N ILE 144 40.510 2.235 2.984 1.00 26.98 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1112 CB ILE 144 42.203 0.782 1.921 1.00 27.49 A ATOM 1113 CG2 ILE 144 43.384 -0.149 2.198 1.00 27.56 A ATOM 1114 CG1 ILE 144 41.062 0.016 1.238 1.00 27.56 A ATOM 1115 CD1 ILE 144 41.371 -0.449 -0.183 1.00 27.56 A ATOM 1116 C ILE 144 43.629 2.836 3.254 1.00 29.54 A ATOM 1117 O ILE 144 43.629 2.836 3.254 1.00 29.54 A ATOM 1118 N ASP 154 39.699 -4.314 1.391 1.00 51.55 A ATOM 1119 CA ASP 154 39.699 -4.314 1.391 1.00 51.78 A ATOM 1120 CB ASP 154 38.523 -5.036 1.863 1.00 51.78 A ATOM 1121 CG ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1122 OD1 ASP 154 38.590 -6.199 -0.236 1.00 51.92 A ATOM 1125 O ASP 154 38.590 -6.699 1.159 1.00 50.76 A ATOM 1126 N GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A
ATOM 1101 O ARG 142 40.697 5.301 3.410 1.00 19.58 A ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.411 2.621 3.155 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.358 1.480 4.142 1.00 22.70 A ATOM 1106 CG1 ILE 143 36.091 3.389 3.120 1.00 22.29 A ATOM 1107 CD1 ILE 143 35.062 2.778 2.182 1.00 18.17 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1109 O ILE 143 39.989 2.561 5.152 1.00 25.38 A ATOM 1110 N ILE 144 40.510 2.235 2.984 1.00 26.98 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1112 CB ILE 144 42.203 0.782 1.921 1.00 27.49 A ATOM 1113 CG2 ILE 144 43.384 -0.149 2.198 1.00 27.49 A ATOM 1115 CD1 ILE 144 41.062 0.016 1.238 1.00 27.56 A ATOM 1116 C ILE 144 41.062 0.016 1.238 1.00 27.56 A ATOM 1117 O ILE 144 42.823 2.180 3.919 1.00 27.56 A ATOM 1118 N ASP 154 38.523 -5.036 3.254 1.00 29.54 A ATOM 1119 CA ASP 154 38.523 -5.036 1.863 1.00 27.58 A ATOM 1120 CB ASP 154 38.523 -5.036 1.863 1.00 51.78 A ATOM 1121 CG ASP 154 38.523 -5.036 1.863 1.00 51.95 A ATOM 1122 CD ASP 154 38.738 -4.059 2.230 1.00 51.95 A ATOM 1122 CB ASP 154 38.738 -4.059 2.230 1.00 51.95 A ATOM 1123 OD2 ASP 154 38.798 -2.137 2.546 1.00 51.95 A ATOM 1124 C ASP 154 38.798 -2.137 2.546 1.00 51.92 A ATOM 1125 O ASP 154 38.798 -2.137 2.546 1.00 51.92 A ATOM 1126 N GIN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GIN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1128 CB GIN 155 36.774 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GIN 155 36.774 -7.663 0.251 1.00 51.32 A
ATOM 1102 N ILE 143 38.988 4.332 2.333 1.00 22.51 A ATOM 1103 CA ILE 143 38.568 3.568 3.503 1.00 23.25 A ATOM 1104 CB ILE 143 37.411 2.568 3.553 1.00 23.18 A ATOM 1105 CG2 ILE 143 37.411 2.61 1.00 22.70 A ATOM 1106 CG1 ILE 143 36.091 3.389 3.120 1.00 22.29 A ATOM 1107 CD1 ILE 143 35.062 2.778 2.182 1.00 18.17 A ATOM 1108 C ILE 143 39.756 2.736 3.959 1.00 24.57 A ATOM 1109 O ILE 143 39.989 2.561 5.152 1.00 25.38 A ATOM 1110 N ILE 144 40.510 2.235 2.984 1.00 26.98 A ATOM 1111 CA ILE 144 41.686 1.408 3.243 1.00 27.37 A ATOM 1112 CB ILE 144 42.203 0.782 1.921 1.00 27.49 A ATOM 1113 CG2 ILE 144 43.384 -0.149 2.198 1.00 28.27 A ATOM 1114 CG1 ILE 144 41.062 0.016 1.238 1.00 27.56 A ATOM 1115 CD1 ILE 144 41.371 -0.449 -0.183 1.00 27.56 A ATOM 1116 C ILE 144 42.823 2.180 3.919 1.00 27.56 A ATOM 1117 O ILE 144 43.629 2.836 3.254 1.00 27.56 A ATOM 1118 N ASP 154 39.699 -4.314 1.391 1.00 51.55 A ATOM 1120 CB ASP 154 38.523 -5.036 1.863 1.00 51.78 A ATOM 1121 CG ASP 154 38.523 -5.036 1.863 1.00 51.96 A ATOM 1122 CD ASP 154 38.523 -5.036 1.863 1.00 51.96 A ATOM 1124 C ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 51.96 A ATOM 1126 N GLN 155 36.277 -7.669 0.590 1.00 52.85 A
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ATOM 1120 CB ASP 154 37.385 -4.059 2.230 1.00 51.96 A ATOM 1121 CG ASP 154 37.754 -2.589 2.016 1.00 51.95 A ATOM 1122 OD1 ASP 154 38.798 -2.137 2.546 1.00 51.92 A ATOM 1123 OD2 ASP 154 36.988 -1.874 1.330 1.00 50.45 A ATOM 1124 C ASP 154 38.000 -6.033 0.832 1.00 51.96 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 53.09 A ATOM 1126 N GLN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85
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ATOM 1122 OD1 ASP 154 38.798 -2.137 2.546 1.00 51.92 A ATOM 1123 OD2 ASP 154 36.988 -1.874 1.330 1.00 50.45 A ATOM 1124 C ASP 154 38.000 -6.033 0.832 1.00 51.96 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 53.09 A ATOM 1126 N GLN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85
ATOM 1123 OD2 ASP 154 36.988 -1.874 1.330 1.00 50.45 A ATOM 1124 C ASP 154 38.000 -6.033 0.832 1.00 51.96 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 53.09 A ATOM 1126 N GLN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85
ATOM 1124 C ASP 154 38.000 -6.033 0.832 1.00 51.96 A ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 53.09 A ATOM 1126 N GLN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85
ATOM 1125 O ASP 154 38.590 -6.199 -0.236 1.00 53.09 A ATOM 1126 N GLN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85 A
ATOM 1126 N GLN 155 36.892 -6.699 1.159 1.00 50.76 A ATOM 1127 CA GLN 155 36.277 -7.663 0.251 1.00 51.32 A ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85 A
ATOM 1128 CB GLN 155 36.743 -9.086 0.590 1.00 52.85 A
ATOM 1129 CG GLN 155 38.116 -9.461 0.005 1.00 56.38 A
ATOM 1130 CD GLN 155 38.077 -9.789 -1.486 1.00 59.01 A ATOM 1131 OE1 GLN 155 39.120 -9.959 -2.131 1.00 61.97 A
ATOM 1131 OE1 GLN 155 39.120 -9.959 -2.131 1.00 61.97 A ATOM 1132 NE2 GLN 155 36.876 -9.882 -2.037 1.00 59.84 A
ATOM 1132 NE2 GEN 155 30.076 9.862 2.037 1.00 59.04 A
ATOM 1134 O GLN 155 34.211 -6.458 0.416 1.00 50.66 A
ATOM 1135 N GLU 156 34.034 -8.680 0.207 1.00 48.71 A

Fig. 2A-19

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
$\begin{array}{c} 11338901234456789012311377123445678901231138411445111555678901231166678901231177789012311889012\\ 11111111111111111111111111111111111$
CB CG CD OE1 CO N CA CB CG OD1 CD2 CO N CA CB CG CD1 CD2 CO N CA CB CG CD1 CC
ASP ASP LEU LEU LEU LEU LEU LEU LYS LYS LYS LYS LYS PHE PHE PHE PHE PHE PHE PHE PHE HIS HIS HIS HIS
156 156 156 156 156 156 157 157 157 157 157 157 157 157 157 157
32.36.66 32.36.66 32.36.66 32.36.66 33.66 36.6
4527390676701236104824126603476426951348213439936120161
-8.684 10.046 10.5221 -9.6928 -7.404 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.4249 -7.44310 -7.427 -7
0.439 -0.713 -1.559 -1.304 -2.463 1.0882 3.1650 4.4047 3.8278 2.1297 0.4457 -1.405 -1.405 -1.405 -1.407 -1.516 -1.407 -1.516 -1.644 -1.209 -1.644 -1.209 -1.644 -1.209 -1.644 -1.209 -1.644 -1.209 -1.644 -1.209 -1.644 -1.209 -1.
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47.49.40.90.00.00.00.00.00.00.00.00.00.00.00.00
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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
1194 11195 11197 11197 11198 111990 1120034567899011211211211211211222112223112233456789901121121112122223456789901123112334567890112311233345678901123112333456789011231123334567890112311233345678901123112333456789011231123334567890112311233345678901123112333456789011231123334567890112311233345678901123112333456789011231123334567890112311233345678901123112333456789011231123334567890112311233345678901123112333456789011231123334567890112311233345678901123334590112334590112333459011233345901123334590112333459011233345901123334590112333459011233345901123334590112333459011233345901123334590000000000000000000000000000000000
CCOOCON CBGDEZ CCOOCON CABGGCCCCCCON CCCCCCCCCCCCCCCCCCCCCCCCCCCCC
GLUUUUUSSSSSSLLLLLEEEEEEEUUUUUUUUUYYYYRRRRRRRRRRRRRRR
1166222233333333334444444455555555666666666777788888888888
27.748 28.170 29.341 26.085 26.187 24.2849 26.1847 22.3311 26.26.1837 24.22.3311 26.26.1837 22.3311 22.3311 22.3147 22.3147 22.3147 22.3147 22.3147 22.3147 22.3147 22.3147 22.3147 22.3148 22.3147 22.3147 22.3148 22.3147 22.3148 22.3147 22.3148 22.3147 22.3148 22
-1.730 -2.749 -3.163 -3.163 -0.5459 -0.089 -1.7703 -0.12731 -0.12731 -1.77273 -1.772
-3.969 -5.969 -5.969 -5.969 -1.549 -1.549 -0.637 -0.9216 -0.9879 -0.9216 -0.9879 -0.9216 -0.9879 -0.9216 -0.9879 -1.9879 -1.9879 -1.9879 -1.9879 -1.3891 -1.38
1.00 28.61 1.00 30.31 1.00 26.26 1.00 33.07 1.00 22.17 1.00 21.89 1.00 21.28 1.00 24.16 1.00 27.09 1.00 31.58 1.00 32.32 1.00 21.65 1.00 20.57 1.00 20.62 1.00 20.62 1.00 20.62 1.00 20.78 1.00 20.28 1.00 19.12 1.00 21.64 1.00 27.18 1.00 27.18 1.00 27.18 1.00 27.18 1.00 27.12 1.00 26.40 1.00 27.12 1.00 26.20 1.00 27.12 1.00 26.20 1.00 27.12 1.00 27.12 1.00 26.20 1.00 27.12
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ATOM	1250	СВ	GLN	169	22.184	7.905	-6.155	1.00 26.00	Α
ATOM	1251	CG	GLN	169	23.626	7.463	-6.053	1.00 29.17	A
ATOM	1252	CD	GLN	169	24.615	8.593	-6.299	1.00 29.94	A
ATOM	1253	OE1	GLN	169	25.820	8.429	-6.095	1.00 29.50	A
ATOM	1254	NE2	GLN	169	24.108	9.749	-6.737	1.00 28.14	A
ATOM	1255	C	GLN	169	20.239	9.066	-5.187	1.00 26.60	A
ATOM	1256	0	GLN	169	19.767	10.051	-5.738	1.00 27.89	A
MOTA	1257	N	GLU	170	19.494	8.098	-4.671	1.00 26.92	Α
ATOM	1258	CA	GLU	170	18.040	8.143	-4.714	1.00 28.01	A
ATOM	1259	CB	GLU	170	17.468	6.844	-4.171	1.00 29.99	A
MOTA	1260	CG	GLU	170	16.121 16.204	6.500 5.361	-4.744 -5.728	1.00 35.53	Α
ATOM ATOM	1261 1262	CD OE1	GLU GLU	170 170	15.566	4.317	-5.483	1.00 42.68	A A
ATOM	1263	OE2	GLU	170	16.912	5.506	-6.748	1.00 42.38	A
ATOM	1264	C	GLU	170	17.501	9.302	-3.892	1.00 27.62	A
MOTA	1265 1266	0	GLU	170 171	16.591	10.012	-4.319	1.00 26.01 1.00 28.74	A A
ATOM ATOM	1267	N CA	ILE ILE	171	18.075 17.682	10.536	-2.703 -1.780	1.00 27.14	A
ATOM	1268	CB	$\begin{array}{c} \text{ILE} \\ \text{ILE} \end{array}$	171	18.521	10.483	-0.499	1.00 26.26	A
ATOM	1269	CG2		171	18.247	11.703	0.342	1.00 26.85	A
MOTA	1270 1271	CG1	ILE	171 171	18.202	9.215 8.780	0.287	1.00 25.90	Α
ATOM ATOM	1272	CD1 C	ILE ILE	171	19.322 17.879	11.906	1.191 -2.410	1.00 28.17	A A
ATOM	1273	O	ILE	171	16.912	12.641	-2.637	1.00 28.24	A
ATOM	1274	N	ILE	172	19.139	12.244	-2.680	1.00 27.45	A
ATOM	1275	CA	ILE	172	19.495	13.520	-3.291	1.00 25.70	A
ATOM	1276	CB	ILE	172		13.624	-3.504	1.00 26.14	A
ATOM	1277	CG2	ILE	172	21.019 21.749	13.012	-2.326	1.00 24.71	Α
ATOM	1278	CG1	ILE	172	21.415	12.889	-4.790	1.00 29.17	A
ATOM	1279	CD1	ILE	172	22.906	12.768	-5.016	1.00 28.48	A
ATOM	1280	C	ILE	172	18.797	13.657	-4.639	1.00 24.52	A
ATOM	1281	O	ILE	172	18.259	14.715	-4.963	1.00 26.19	A
MOTA	1282	N	PHE	179	19.876	19.984	-2.975	1.00 42.30	Α
ATOM	1283	CA	PHE	179	21.092	19.709	-2.209	1.00 38.28	A
ATOM	1284	CB	PHE	179	21.397	18.199	-2.157	1.00 36.78	A
ATOM	1285	CG	PHE	179	20.373	17.380	-1.412	1.00 34.19	A
ATOM	1286	CD1	PHE	179	19.165	17.052	-2.012	1.00 33.67	A
MOTA	1287	CD2	PHE	179	20.634	16.909	-0.129	1.00 31.49	Α
ATOM	1288	CE1	PHE	179	18.229	16.263	-1.347 0.543	1.00 33.59	A
ATOM	1289	CE2	PHE	179	19.707	16.121		1.00 32.04	A
ATOM	1290	CZ	PHE	179	18.500	15.797	-0.067	1.00 32.17	A
ATOM	1291	C	PHE	179	22.231	20.384	-2.937	1.00 36.53	A
ATOM	1292	0	PHE	179	22.021	21.059	-3.950	1.00 37.28	Α
ATOM	1293	N	LYS	180	23.433	20.178	-2.417	1.00 34.55	A
ATOM	1294	CA	LYS	180	24.644	20.711	-3.003	1.00 32.09	A
ATOM	1295	CB	LYS	180	25.148	21.909	-2.194 -2.328	1.00 33.81	A
ATOM	1296	CG	LYS	180	24.267	23.151		1.00 35.25	A
ATOM	1297	CD	LYS	180	23.799	23.308	-3.767	1.00 37.60	A
ATOM	1298	CE	LYS	180	22.706	24.354	-3.928	1.00 40.95	A
ATOM	1299	NZ	LYS	180	22.097	24.264	-5.300	1.00 42.21	Α
ATOM	1300	C	LYS	180	25.642	19.565	-2.959	1.00 31.09	A
ATOM	1301	0	LYS	180	26.255	19.286	-1.925	1.00 29.48	A
ATOM	1302	N	SER	181	25.775	18.874	-4.083	1.00 30.63	A
ATOM	1303	CA	SER	181	26.695	17.760	-4.157	1.00 30.95	A
MOTA	1304	CB	SER	181	26.248	16.771	-5.234	1.00 31.00	Α
ATOM	1305	OG	SER	181	27.097	16.850	-6.360	1.00 35.32	A
ATOM	1306	C	SER	181	28.077	18.287	-4.485	1.00 30.42	A

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1307	0	SER	181	28.219	19.175	-5.327	1.00	29.79	А
1308	Ň	VAL	182	29.083	17.743	-3.808			A
1309	CA	VAL	182	30.473	18.132	-4.030			Α
	CB								A
									A
						-2.258 -4.563			A A
					15.785				A
					17.116				A
1316	CA	ASN	183	32.888	15.992	-6.020	1.00	28.16	Α
	CB								Α
									A
1319				34.307					A A
						-5.076			A
1322	Ö	ASN	183	35.077	16.177	-5.081	1.00	29.79	Α
	N	ALA							A
									A
									A A
				36.727	12.784				A
1328	N	ASP	185	35.372	12.743	-5.219	1.00		A
	CA	ASP	185			-6.014			Α
									A
									A A
									A
1334	C	ASP	185	37.513	12.480	-6.397	1.00	33.12	A
	0								A
									A A
									A
1339	ĊĞ	GLN	186	38.302	16.951	-6.072			A
1340	CD	GLN	186	37.618	18.102	-6.796			Α
				36.687					A
					18.399				A A
									Ā
1345	N	PRO	187	41.041	15.295	-5.379	1.00	37.46	Α
1346	CD	PRO							A
									A A
									A
				41.941					A
1351	0	PRO	187	42.921	16.046	-2.285			Α
	N				16.247				A
									A
					15.008				A A
					14.766				A
1357		LEU	188	41.451	14.088	1.681	1.00	44.00	Α
	C	LEU	188	40.804	18.009	-0.799			A
									A
									A A
1362	CB	GLU		43.731	20.142	-1.529			A
1363	CG	GLU	189	44.059	21.594	-1.792			A
	1308 1309 13112 13114 13115 13116 13	1308 N 1309 CA 1310 CB 1311 CG1 1312 CG2 1313 C 1314 O 1315 N 1316 CA 1317 CB 1318 CG 1319 OD1 1320 ND2 1321 C 1322 O 1323 N 1324 CA 1325 CB 1326 C 1327 O 1328 N 1329 CA 1329 CA 1329 CA 1330 CB 1331 CG 1332 OD2 1333 CC 1334 CD 1335 CA 1337 CA 1338 CB 1339 CG 1331 CC 1332 N 1334 CD 1341 OE1 1342 NE2 1343 C 1344 O 1345 N 1346 CD 1347 CA 1348 CB 1349 CG 1351 O 1341 OE1 1342 NE2 1343 C 1344 O 1345 N 1346 CD 1347 CA 1348 CB 1357 CD2 1358 C 1357 CD2 1358 C 1356 CD1 1357 CD2 1358 C 1356 CD1 1357 CD2 1358 C 1356 CD1 1357 CD2	1308 N VAL 1309 CA VAL 1310 CB VAL 1311 CG1 VAL 1312 CG2 VAL 1313 C VAL 1314 O VAL 1315 N ASN 1316 CA ASN 1317 CB ASN 1318 CG ASN 1319 OD1 ASN 1320 ND2 ASN 1321 C ASN 1322 O ASN 1323 N ALA 1324 CA ALA 1325 CB ALA 1325 CB ALA 1326 C ALA 1327 O ALA 1328 N ASP 1329 CA ASP 1330 CB ASP 1331 CG ASP 1331 CG ASP 1331 CG ASP 1332 OD1 ASP 1333 OD2 ASP 1334 C ASP 1335 O ASP 1336 N GLN 1337 CA GLN 1337 CA GLN 1338 CB GLN 1339 CG GLN 1341 OE1 GLN 1342 NE2 GLN 1343 C GLN 1344 O GLN 1345 N PRO 1346 CD PRO 1347 CA PRO 1348 CB PRO 1349 CG PRO 1347 CA PRO 1348 CB PRO 1349 CG PRO 1340 CD GLN 1341 OE1 GLN 1342 NE2 GLN 1343 C GLN 1344 O GLN 1345 N PRO 1346 CD PRO 1347 CA PRO 1348 CB PRO 1346 CD PRO 1347 CA PRO 1348 CB PRO 1349 CG PRO 1350 C PRO 1351 O PRO 1352 N LEU 1355 CG LEU 1355 CG LEU 1356 CD1 LEU 1357 CD2 LEU 1358 C LEU 1359 O LEU 1359 O LEU 1350 C BGLU 1360 N GLU 1361 CA GLU 1361 CA GLU 1361 CA GLU 1362 CB GLU	1308 N VAL 182 1309 CA VAL 182 1310 CB VAL 182 1311 CG1 VAL 182 1312 CG2 VAL 182 1313 C VAL 182 1314 O VAL 182 1315 N ASN 183 1316 CA ASN 183 1316 CA ASN 183 1317 CB ASN 183 1319 OD1 ASN 183 1320 ND2 ASN 183 1321 C ASN 183 1322 O ASN 183 1322 O ASN 183 1322 O ASN 183 1323 N ALA 184 1324 CA ALA 184 1325 CB ALA 184 1326 C ALA 184 1327 O ALA 184 1328 N ASP 185 1330 CB ASP 185 1330 CB ASP 185 1331 CG ASP 185 1331 CG ASP 185 1333 OD2 ASP 185 1333 OD2 ASP 185 1334 C ASP 185 1335 O ASP 185 1336 N GLN 186 1337 CA GLN 186 1337 CA GLN 186 1339 CG GLN 186 1339 CG GLN 186 1339 CG GLN 186 1341 OE1 GLN 186 1341 OE1 GLN 186 1342 NE2 GLN 186 1343 C GLN 186 1344 O GLN 186 1345 N PRO 187 1346 CD PRO 187 1347 CA PRO 187 1348 CB PRO 187 1349 CG PRO 187 1349 CG PRO 187 1346 CD PRO 187 1347 CA PRO 187 1348 CB PRO 187 1349 CG PRO 187 1350 C PRO 187 1351 O PRO 187 1352 N LEU 188 1353 CA LEU 188 1355 CG LEU 188 1355 CG LEU 188 1356 CD1 LEU 188 1357 CD2 LEU 188 1357 CD2 LEU 188 1358 C LEU 188 1359 O LEU 188 1350 CB GLU 189 1360 N GLU 189 1361 CA GLU 189 1362 CB GLU 189	1308 N VAL 182 29.083 1309 CA VAL 182 30.473 1310 CB VAL 182 31.156 1311 CG1 VAL 182 32.6649 1312 CG2 VAL 182 30.589 1313 C VAL 182 31.213 1314 O VAL 182 30.916 1315 N ASN 183 32.157 1316 CA ASN 183 32.157 1316 CA ASN 183 32.888 1317 CB ASN 183 32.888 1317 CB ASN 183 34.051 1319 OD1 ASN 183 34.051 1319 OD1 ASN 183 34.071 1320 ND2 ASN 183 34.244 1321 C ASN 183 33.999 1322 O ASN 183 33.999 1322 O ASN 183 35.077 1323 N ALA 184 33.730 1324 CA ALA 184 34.724 1325 CB ALA 184 34.034 1326 C ALA 184 34.034 1326 C ALA 184 36.727 1328 N ASP 185 35.372 1329 CA ASP 185 36.190 1330 CB ASP 185 35.454 1331 CG ASP 185 35.454 1331 CG ASP 185 35.454 1331 CG ASP 185 35.351 1332 OD1 ASP 185 35.351 1333 OD2 ASP 185 35.351 1334 C ASP 185 35.351 1335 O ASP 185 35.351 1336 N GLN 186 37.699 1337 CA GLN 186 38.900 1338 CB GLN 186 38.900 1340 CD GLN 186 38.900 1350 C PRO 187 41.941 1341 OE1 GLN 186 36.687 1344 O GLN 186 39.548 1345 N PRO 187 41.941 1346 CD PRO 187 41.941 1347 CA PRO 187 42.620 1350 C PRO 187 42.620 1350 C PRO 187 42.620 1351 O PRO 187 42.620 1352 N LEU 188 40.453 1354 CB LEU 188 40.453 1355 CG LEU 188 40.661 1358 C LEU 188 40.661 1358 C LEU 188 40.677 1360 N GLU 189 41.929 1361 CA GLU 189 42.299 1362 CB GLU 189 43.731	1308	1308 N	1308 N	1308 N VAL

Fig. 2A-23

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Fig. 2A-24

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ATOM 1421 ATOM 1423 ATOM 1424 ATOM 1425 ATOM 1426 ATOM 1426 ATOM 1427 ATOM 1428 ATOM 1429 ATOM 1430 ATOM 1431 ATOM 1433 ATOM 1433 ATOM 1434 ATOM 1435 ATOM 1436 ATOM 1443 ATOM 1443 ATOM 1444 ATOM 1444 ATOM 1444 ATOM 1444 ATOM 1445 ATOM 1446 ATOM 1447 ATOM 1450 ATOM 1451 ATOM 1452 ATOM 1453 ATOM 1453 ATOM 1454 ATOM 1455 ATOM 1456 ATOM 1457 ATOM 1458 ATOM 1456 ATOM 1457 ATOM 1467 ATOM 1477
CD2 TYR CE2 TYR CE2 TYR CE2 TYR CC2 TYR CC3 TYR CC4 GLN CC5 GLN CC6 GLN CC7 GLN CC8 GLN CC9 GL
196 196 196 197 197 197 197 198 198 198 199 199 199 199 2000 2000 2001 2011 201
35.972 36.142 35.715 36.142 35.876 32.923 33.6644 34.741 35.1263 34.741 36.1380 29.741 29.3648 29.365 29.741 29.3649 29.365 29.748 29.365 29.748 29.365 29.748 31.1860 29.776 20.7766 20.7766 20.7
29.011 30.421 30.421 27.770 27.409 27.409 28.307 27.409 28.307 28
1.666 2.2837 4.2807 1.3268 3.5209 1.3268 -1.3268 -1.32748 -1.32967 -1.34522 -1.34522 -1.34523 -1.34523 -1.34523 -1.34523 -1.34539 -1.34533 -1.34533 -1.34533 -1.34533 -1.34533 -1.34533 -1.34533 -1.3453 -1.34
1.00 29.95 1.00 30.27 1.00 32.29 1.00 28.75 1.00 28.74 1.00 29.70 1.00 30.12 1.00 30.71 1.00 34.65 1.00 36.28 1.00 29.77 1.00 30.98 1.00 29.67 1.00 30.01 1.00 30.01 1.00 30.01 1.00 29.67 1.00 29.67 1.00 29.60 1.00 29.22 1.00 26.89 1.00 26.89 1.00 26.94 1.00 24.49 1.00 24.49 1.00 24.95 1.00 24.95 1.00 26.94 1.00 27.38 1.00 29.81 1.00 31.60 1.00 35.63 1.00 35.63 1.00 37.31 1.00 37.38 1.00 39.22 1.00 39.22 1.00 39.22 1.00 39.22
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ATOM	1535	CE1	PHE	1008	-8.34	6 -9.165	29.305	1.00 35.69	В
ATOM	1536	CE2	PHE	1008	-6.50		27.806	1.00 33.60	В
MOTA	1537	CZ	PHE	1008	-7.53		28.609	1.00 35.88	В
MOTA	1538	С	PHE	1008	-6.66	3.762	26.946	1.00 27.74	В
ATOM	1539	0	PHE	1008	-5.67		27.502	1.00 24.38	В
ATOM	1540	N	GLU	1009	-7.57		26.368	1.00 27.62	В
									ם
ATOM	1541	CA	GLU	1009	-7.42		26.380	1.00 27.29	В
MOTA	1542	CB	GLU	1009	-7.54		24.957	1.00 30.06	В
MOTA	1543	CG	${ t GLU}$	1009	-6.34	5 -1.420	24.101	1.00 30.61	В
MOTA	1544	CD	GLU	1009	-5.05	3 - 0.756	24.575	1.00 33.51	В
ATOM	1545	OE1	GLU	1009	-3.99	2 -1.020	23.969	1.00 32.69	В
ATOM	1546	OE2	GLU	1009	-5.09		25.555	1.00 33.25	В
ATOM	1547	C	GLU	1009	-8.43		27.306	1.00 26.16	В
ATOM	1548	Ö	GLU	1009	-9.52 ⁻		27.538	1.00 22.48	В
									В
ATOM	1549	N	GLY	1010	-8.04		27.857	1.00 27.94	
MOTA	1550	CA	GLY	1010	-8.93		28.758	1.00 29.94	В
MOTA	1551	С	GLY	1010	-8.18		29.624	1.00 30.85	В
MOTA	1552	0	GLY	1010	-7.02	1.709	29.967	1.00 30.29	В
ATOM	1553	N	PRO	1011	-8.85	1 3.028	30.013	1.00 31.71	В
ATOM	1554	CD	PRO	1011	-10.26		29.681	1.00 32.44	В
ATOM	1555	ĊĀ	PRO	1011	-8.26		30.849	1.00 31.73	В
ATOM	1556	CB	PRO	1011	-9.13		30.562	1.00 32.41	В
ATOM	1557	CG		1011	-10.43		30.019	1.00 32.41	В
			PRO						Б
ATOM	1558	C	PRO	1011	-8.24		32.331	1.00 31.31	В
ATOM	1559	0	PRO	1011	-8.64		32.742	1.00 32.99	В
MOTA	1560	N	GLU	1012	-7.76		33.138	1.00 29.79	В
MOTA	1561	CA	GLU	1012	-7.73	7 4.460	34.564	1.00 27.55	В
MOTA	1562	CB	GLU	1012	-6.99	3 5.592	35.277	1.00 29.70	В
ATOM	1563	CG	GLU	1012	-6.10	4 5.078	36.409	1.00 34.80	В
ATOM	1564	CD	GLU	1012	-4.94		36.725	1.00 37.57	В
ATOM	1565	OE1	GLU	1012	-4.12		35.822	1.00 39.61	В
ATOM	1566	OE2	GLU	1012	-4.85		37.879	1.00 39.54	В
									ם
ATOM	1567	C	GLU	1012	-9.19		34.989	1.00 23.66	В
ATOM	1568	0	GLU	1012	-10.07		34.274	1.00 22.16	В
ATOM	1569	N	GLY	1013	-9.45		36.127	1.00 21.66	B B
MOTA	1570	CA	GLY	1013	-10.82		36.605	1.00 21.23	В
ATOM	1571	C	GLY	1013	-11.69	3 2.685	35.816	1.00 19.21	В
MOTA	1572	0	GLY	1013	-12.88	1 2.548	36.106	1.00 17.99	В
MOTA	1573	N	SER	1014	-11.09		34.827	1.00 19.72	В
ATOM	1574	CA	SER	1014	-11.80		33.985	1.00 17.23	В
ATOM	1575	CB	SER	1014	-11.15		32.587	1.00 15.73	B
ATOM	1576	OG	SER	1014	-9.96		32.565	1.00 6.67	В
					-11.82				В
ATOM	1577	C	SER	1014			34.630	1.00 20.08	
ATOM	1578	0	SER	1014	-12.65		34.292	1.00 21.83	В
ATOM	1579	N	GLY	1015	-10.90		35.571	1.00 21.90	В
MOTA	1580	CA	GLY	1015	-10.80		36.260	1.00 21.91	В В В
ATOM	1581	С	GLY	1015	-9.96	9 -2.797	35.458	1.00 22.02	В
ATOM	1582	0	GLY	1015	-9.98	l -3.996	35.711	1.00 21.89	В
ATOM	1583	N	LYS	1016	-9.23		34.488	1.00 21.98	В
ATOM	1584	CA	LYS	1016	-8.42		33.623	1.00 22.53	B B
ATOM	1585	CB	LYS	1016	-7.60		32.648	1.00 23.14	В
	1586		LYS	1016	-7.23		31.354	1.00 23.14	מ
ATOM		CG							, D
ATOM	1587	CD	LYS	1016	-6.57		30.302	1.00 22.86	В В В
ATOM	1588	CE	LYS	1016	-5.68		30.921	1.00 18.96	В
ATOM	1589	NZ	LYS	1016	-4.27		31.073	1.00 21.09	В
ATOM	1590	С	LYS	1016	-7.49		34.326	1.00 22.81	В
ATOM	1591	0	LYS	1016	-7.53	5.270	34.045	1.00 25.20	В

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ATOM	1592	N	THR	1017	-6.668		35.233	1.00 23.24	Е
ATOM	1593	CA	THR	1017	-5.725	-4.449	35.923	1.00 24.26	В
ATOM	1594	CB	THR	1017	-4.878	-3.638	36.904	1.00 25.41	В
ATOM	1595	OG1	THR	1017	-3.840	-4.463	37.446	1.00 29.68	В
ATOM ATOM	1596 1597	CG2 C	THR THR	1017 1017 1017	-5.742 -6.394	-3.107	38.027 36.658	1.00 29.83 1.00 25.17	B B
ATOM	1598	O	THR	1017	-5.852	-6.719	36.708	1.00 25.22	B
ATOM	1599	N	THR	1018	-7.580		37.205	1.00 26.73	B
ATOM	1600	CA	THR	1018	-8.328		37.950	1.00 25.28	B
ATOM	1601	CB	THR	1018	-9.414		38.832	1.00 26.80	B
ATOM	1602	OG1	THR	1018	-8.770	-4.874	39.808	1.00 29.40	B
ATOM	1603	CG2	THR	1018	-10.281		39.550	1.00 22.91	B
ATOM ATOM	1604 1605	C	THR THR	1018 1018	-8.992 -9.045	-7.404	37.039 37.359	1.00 24.21 1.00 22.96	B B
ATOM	1606	N	VAL	1019	-9.486	-6.931	35.902	1.00 22.37	B
ATOM	1607	CA	VAL	1019	-10.164		34.937	1.00 22.87	B
ATOM	1608	CB	VAL	1019	-10.888	-6.932	33.904	1.00 22.80	B
ATOM	1609	CG1	VAL	1019	-11.582	-7.827	32.891	1.00 23.74	B
ATOM ATOM	1610 1611	CG2 C		1019 1019	-11.872 -9.260	-6.020	34.597 34.187	1.00 24.35 1.00 24.10	B B
ATOM	1612	O	VAL	1019	-9.572	-9.944	34.085	1.00 25.94	B
ATOM	1613	N	ILE	1020	-8.151	-8.256	33.655	1.00 23.26	B
ATOM ATOM	1614 1615	CA CB	ILE	1020 1020	-7.236 -6.017	-9.101	32.900 32.367	1.00 24.48 1.00 23.76	B B
ATOM ATOM	1616 1617	CG2 CG1	ILE	1020 1020	-5.168 -5.177	-7.764	33.515 31.411	1.00 22.68 1.00 22.91	B B
ATOM ATOM	1618 1619	CD1 C	ILE	1020 1020	-3.957 -6.750	-8.407 -10.311	30.849 33.698	1.00 22.28 1.00 25.69	B B
ATOM	1620	O	ILE	1020	-6.756	-10.090	33.190	1.00 24.60	B
ATOM	1621	N	ASN	1021	-6.358		34.950	1.00 27.37	B
ATOM	1622	CA	ASN	1021	-5.868		35.794	1.00 29.11	B
ATOM	1623	CB	ASN	1021	-5.226		37.059	1.00 34.21	B
ATOM ATOM	1624 1625		ASN ASN	1021 1021	-4.618 -4.761	-11.648	37.944 39.174	1.00 39.81 1.00 43.11	B B
ATOM ATOM	1626 1627	ND2 C	ASN	1021 1021	-3.937 -6.942	-12.190	37.327 36.166	1.00 39.90 1.00 28.95	B B
ATOM	1628	O	ASN	1021	-6.653	-11.737	36.230	1.00 30.74	B
ATOM	1629	N	GLU	1022	-8.173		36.410	1.00 29.46	B
ATOM	1630	CA	GLU	1022	-9.276	-11.888	36.767	1.00 28.78	B
ATOM	1631	CB	GLU	1022	-10.574		37.060	1.00 33.74	B
ATOM ATOM	1632 1633	CG CD	GLU GLU GLU	1022 1022	-10.505 -9.935 -9.841	-10.822 -11.338 -12.578	38.121 39.407	1.00 40.77 1.00 44.92	B B
ATOM ATOM ATOM	1634 1635 1636		GLU GLU	1022 1022 1022		-10.498	39.561 40.262 35.583	1.00 47.00 1.00 49.32 1.00 26.10	B B B
ATOM	1637	O	GLU	1022	-9.694	-14.759	35.713	1.00 23.64	B
ATOM	1638	N	VAL	1023	-9.648		34.425	1.00 23.86	B
ATOM	1639	CA	VAL	1023	-9.888	-13.582	33.171	1.00 22.29	B
ATOM	1640	CB	VAL	1023	- 9.934		32.030	1.00 22.20	B
ATOM ATOM	1641 1642	CG1 CG2	VAL	1023 1023	-9.955 -11.140	-13.280	30.690 32.200	1.00 22.20 1.00 24.04 1.00 22.35	B B
ATOM ATOM	1643 1644	C	VAL VAL	1023 1023	-8.750 -8.984	-14.568	32.948 32.726	1.00 21.29 1.00 23.15	B B
ATOM	1645	N	TYR	1024	-7.523	-14.066	33.033	1.00 18.03	B
ATOM	1646	CA	TYR	1024	-6.335		32.852	1.00 17.65	B
ATOM	1647	CB	TYR	1024	-5.068	-14.071	33.177	1.00 12.17	В
ATOM	1648	CG	TYR	1024	-3.778		33.102	1.00 8.39	В

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731	OD2 C O N CA CB CG CD1 CE1 CD2 CZ OH C O N CA CB CG OD1	ASP ASP ASP TYR TYR TYR TYR TYR TYR TYR TYR TYR ASP ASP ASP ASP ASP VAL VAL	1030 1030 1030 1031 1031 1031 1031 1031	-12.385 -8.081 -8.436 -7.024 -6.245 -6.729 -8.182 -9.184 -10.531 -8.557 -9.898 -10.879 -12.204 -4.749 -4.294 -3.985 -2.543 -1.830 -0.339 0.211 0.282 -2.328 -1.995 -2.542	-24.016 -24.468 -23.223 -22.842 -21.487 -21.463 -21.204 -21.208 -21.726 -21.733 -21.479 -21.499 -22.762 -22.836 -22.645 -22.508 -23.322 -23.133 -22.995 -23.124 -21.026 -20.592 -20.252 -18.814	31.612 30.621 28.413 27.325 28.549 27.375 26.837 26.436 27.370 27.006 25.129 24.752 25.691 25.310 27.650 28.774 26.683 25.658 25.658 26.771 24.575 26.440 25.331 27.495 27.407	1.00 29.79 1.00 30.33 1.00 27.98 1.00 25.91 1.00 25.00 1.00 19.50 1.00 16.83 1.00 17.00 1.00 14.72 1.00 18.19 1.00 16.91 1.00 17.09 1.00 14.46 1.00 20.89 1.00 21.98 1.00 23.92 1.00 21.98 1.00 24.66 1.00 29.32 1.00 24.96 1.00 24.96 1.00 24.98 1.00 25.81	888888888888888888888888888888888888888
ATOM ATOM ATOM	1732 1733 1734	CB CG1 CG2	VAL VAL	1033 1033 1033	-3.821 -4.481 -3.708	-18.174 -18.737	27.588 28.830 27.691	1.00 25.87 1.00 28.68 1.00 29.49	B B B
ATOM	1735	C	VAL	1033	-1.477		28.445	1.00 25.35	В
ATOM	1736	O	VAL	1033	-1.302		29.525	1.00 28.02	В
ATOM	1737	N	ILE	1034	-0.837		28.100	1.00 21.73	В
ATOM	1738	CA	ILE	1034	0.046	-16.427	29.030	1.00 18.66	B
ATOM	1739	CB	ILE	1034	1.546	-16.490	28.607	1.00 18.56	B
ATOM	1740	CG2	ILE	1034	1.937	-15.664	28.281	1.00 20.50	В
ATOM	1741	CG1	ILE	1034	1.809		27.387	1.00 18.26	В
ATOM	1742	CD1	ILE	1034	3.253		26.926	1.00 14.65	В
ATOM	1743	C	ILE	1034	-0.437		29.083	1.00 17.98	В
ATOM	1744	O	ILE	1034	-1.212		28.236	1.00 17.67	В
ATOM	1745	N	MET	1035	-0.006		30.092	1.00 17.36	В
ATOM ATOM	1746 1747	CA CB	MET MET	1035 1035 1035	-0.421 -1.385	-12.858 -12.722	30.242 31.426	1.00 17.30 1.00 17.22 1.00 17.46	B B
ATOM ATOM	1748 1749	CG SD	MET MET	1035 1035		-10.817	31.611	1.00 19.72 1.00 22.58	B B
ATOM	1750	CE	MET	1035	-0.437		33.455	1.00 21.62	B
ATOM	1751	C	MET	1035	0.826		30.463	1.00 17.87	B
ATOM	1752	O	MET	1035	1.677		31.296	1.00 17.85	B
MOTA MOTA	1753 1754	N CA	\mathtt{THR}	1036 1036	0.941 2.105	-10.107	29.696 29.799	1.00 19.18 1.00 20.66	B B
ATOM	1755	CB	THR	1036	3.065		28.617	1.00 20.80	В
ATOM	1756	OG1	THR	1036	4.356		28.904	1.00 23.06	В
ATOM	1757	CG2	THR	1036	2.542		27.343	1.00 21.22	В
ATOM	1758	C	THR	1036	1.769	-8.618	29.865	1.00 20.74	B
ATOM	1759	0	THR	1036	0.795	-8.145	29.275	1.00 18.97	B
ATOM	1760	N	ARG	1037	2.582	-7.904	30.633	1.00 22.39	В
ATOM	1761	CA	ARG	1037	2.456	-6.469	30.822	1.00 24.72	В
ATOM	1762	CB	ARG	1037	2.299	-6.126	32.321	1.00 26.66	В

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ATOM 1764 ATOM 1765 ATOM 1766 ATOM 1767 ATOM 1768 ATOM 1769 ATOM 1770 ATOM 1771 ATOM 1772 ATOM 1773 ATOM 1774 ATOM 1775 ATOM 1776 ATOM 1777 ATOM 1778 ATOM 1777 ATOM 1778 ATOM 1778 ATOM 1780 ATOM 1781 ATOM 1782 ATOM 1782 ATOM 1783 ATOM 1784 ATOM 1785 ATOM 1785 ATOM 1786 ATOM 1787 ATOM 1788 ATOM 1787 ATOM 1788 ATOM 1789 ATOM 1790 ATOM 1791 ATOM 1792 ATOM 1793 ATOM 1794 ATOM 1793 ATOM 1794 ATOM 1795 ATOM 1796 ATOM 1797 ATOM 1798 ATOM 1798 ATOM 1799 ATOM 1799 ATOM 1800 ATOM 1801 ATOM 1801 ATOM 1802 ATOM 1803 ATOM 1804 ATOM 1807 ATOM 1808 ATOM 1809 ATOM 1809 ATOM 1809 ATOM 1801 ATOM 1801 ATOM 1807 ATOM 1808 ATOM 1809 ATOM 1809 ATOM 1811 ATOM 1812 ATOM 1813 ATOM 1814 ATOM 1815 ATOM 1816 ATOM 1817 ATOM 1817 ATOM 1818
CG ARG CD CO CO CD PROOCE CO CO CD PROOCE CD CO CD PROOCE CD CO CD CD PROOCE CD CD CD PROOCE CD CD CD PROOCE CD CD CD CD CD PROOCE CD
1037 1037 1037 1037 1037 1037 1037 1038 1038 1038 1038 1038 1038 1039 1039 1039 1039 1040 1040 1041 1041 1042 1042 1042 1042
1.562 1.871 0.814 1.022 -0.250 3.7823 4.823 5.0030 3.754 4.775 7.8499 6.777 7.8499 9.2216 8.9912 7.240 8.6991 11.6621 13.6631 12.777 11.8823 11.677 11.8823 11.877
-7. 692078 -7. 692078 -7. 692078 -8. 8. 4930942 -7. 692078 -8. 8. 4930942 -7. 692078 -8. 8. 4930942 -9. 8. 19796 -9. 1979
33.1623 34.6434 35.4844 37.1298 39.1298 39.1298 30.91298 30.91298 30.91298 30.5529 30.
1.00 30.81 1.00 32.69 1.00 35.51 1.00 34.79 1.00 35.46 1.00 25.92 1.00 25.92 1.00 26.43 1.00 29.29 1.00 33.57 1.00 34.71 1.00 31.34 1.00 27.23 1.00 24.99 1.00 25.14 1.00 25.96 1.00 25.96 1.00 16.89 1.00 16.89 1.00 16.89 1.00 16.89 1.00 16.89 1.00 16.87 1.00 16.87 1.00 16.87 1.00 16.87 1.00 16.87 1.00 22.32 1.00 22.32 1.00 22.32 1.00 22.32 1.00 25.65 1.00 25.65
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Fig. 2A-31

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
$\begin{array}{c} 182234456789011233456789901121818884445678990112334566789901123345678990112345678901123456789011234567899011234567899011234567899011234567899011234567899011234567899011234567899011234567$
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13 14 13 11 10 14 15 16 17 18 19 18 19 19 10 11 11 11 11 11 11 11 11 11 11 11 11
347225548664208574846077744400154732554859683785989285 01665486664208574846077744401554152966357859683285
-3.5349823449977708800066655523663592882349996731220.64363599288144323398881779945576.755.78.667.557.8667.676.796868566859288810000000000000000000000000000000000
29.463 30.789 31.789 31.789 31.943 33.0730 31.5943 33.09.126 33.09.126 30.1862 29.742 29.742 27.183 29.742 28.709 29.742 28.709 29.742 28.709 30.576 31.856 29.722 27.183 30.576 31.856
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
30.31.860993331.07677752.0411.0172.0172

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	1877 1878 18879 18881 18888 18888 18888 18889 18899 1900 1900	C O N CA CB CG CD1 C O N CA CB CG OD1 C O N CA CB CG OD1 C O N CA CB CG OD2 C O N CA CB CG OD3 C CB CC O N CA CB CB CC O N CA CB CC	VAL VAL VAL LEUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	$\begin{array}{c} 1052\\ 221052\\ 210552\\ 2$	9.625 11.039 11.760 11.292 11.958 11.647 11.353 10.220 8.976 12.833 12.696 13.994 16.434 16.655 17.466 18.410 17.166 18.410 17.166 18.427 14.324 13.418 11.9728 9.272 10.539 11.615 12.792 10.5579 11.3428 11.6557 11.3428 11.615 12.792 12.792 13.357 11.3428 11.615 12.792 13.357 11.3428 11	7.417 6.796 7.876 8.990 6.935 7.176 5.848 4.971 3.836 7.822 8.443 7.822 8.414 7.744 6.3248 7.049 9.927 10.612 12.656 13.323 12.762 12.223 12.762 12.223 12.762 12.838 14.908 15.831 16.338 17.838 16.338 17.838 16.338 17.8	29.963 28.018 31.588 31.872 33.895 34.581 34.989 33.821 34.574 35.651 33.874 35.644 35.794 36.534 36.534 36.534 37.888 37.888 38.888	1.00 1.00 1.00 1.00 1.00 1.00	29.45 30.70 49.45 31.75 32.58 31.67 51.72 33.32 33.33	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
ATOM ATOM ATOM	1925 1926 1927	O N CA CB CG	MET ASP ASP ASP ASP ASP	1058 1059 1059	10.094 11.555 10.579	15.336 15.474 15.712	27.835 26.107 25.046	1.00 1.00 1.00	34.35 32.30 28.97	B B B

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ATOM 1934 N ILE 1060 8.323 14.815 24.698 1.00 25.40 ATOM 1935 CA ILE 1060 7.364 13.725 24.615 1.00 23.86 ATOM 1936 CB ILE 1060 5.889 14.191 24.730 1.00 24.13 ATOM 1937 CG2 ILE 1060 5.616 14.667 26.129 1.00 26.24	B B B B B B
ATOM 1936 CB ILE 1060 5.889 14.191 24.730 1.00 24.13	B B B B
	B B B
	B B B
ATOM 1938 CG1 ILE 1060 5.582 15.307 23.743 1.00 25.30	B B
ATOM 1939 CD1 ILE 1060 4.111 15.713 23.765 1.00 24.57	В
ATOM 1940 C ILE 1060 7.535 12.924 23.332 1.00 22.61	
ATOM 1941 O ILE 1060 7.001 11.824 23.223 1.00 23.44	В
ATOM 1942 N ARG 1061 8.273 13.461 22.363 1.00 20.99	В
ATOM 1943 CA ARG 1061 8.503 12.720 21.124 1.00 20.45 ATOM 1944 CB ARG 1061 8.998 13.630 19.994 1.00 21.03	B B
ATOM 1945 CG ARG 1061 8.020 14.738 19.613 1.00 23.60	В
ATOM 1946 CD ARG 1061 7.910 14.928 18.108 1.00 20.80	В
ATOM 1947 NE ARG 1061 6.589 15.426 17.759 1.00 19.01	В
ATOM 1948 CZ ARG 1061 6.058 15.363 16.548 1.00 18.92	В
ATOM 1949 NH1 ARG 1061 6.736 14.812 15.548 1.00 18.29 ATOM 1950 NH2 ARG 1061 4.835 15.834 16.343 1.00 17.05	B B
ATOM 1951 C ARG 1061 9.563 11.683 21.430 1.00 18.95	В
ATOM 1952 O ARG 1061 9.490 10.549 20.954 1.00 19.68	В
ATOM 1953 N THR 1062 10.542 12.084 22.238 1.00 19.11	В
ATOM 1954 CA THR 1062 11.640 11.212 22.653 1.00 18.81	В
ATOM 1955 CB THR 1062 12.637 11.955 23.553 1.00 16.28 ATOM 1956 OG1 THR 1062 13.142 13.103 22.875 1.00 21.04	B B
ATOM 1957 CG2 THR 1062 13.781 11.049 23.937 1.00 13.59	В
ATOM 1958 C THR 1062 11.085 10.065 23.484 1.00 21.57	В
ATOM 1959 O THR 1062 11.536 8.921 23.383 1.00 21.27	В
ATOM 1960 N GLU 1063 10.119 10.416 24.330 1.00 22.15 ATOM 1961 CA GLU 1063 9.452 9.489 25.231 1.00 20.15	B B
ATOM 1962 CB GLU 1063 9.452 9.469 25.251 1.00 20.15	В
ATOM 1963 CG GLU 1063 8.038 9.539 27.362 1.00 33.22	В
ATOM 1964 CD GLU 1063 6.633 9.953 27.776 1.00 37.24	В
ATOM 1965 OE1 GLU 1063 6.474 11.037 28.392 1.00 37.20	В
ATOM 1966 OE2 GLU 1063 5.685 9.191 27.482 1.00 38.73 ATOM 1967 C GLU 1063 8.670 8.443 24.457 1.00 17.42	B B
ATOM 1968 O GLU 1063 8.753 7.252 24.740 1.00 15.48	В
ATOM 1969 N ALA 1064 7.927 8.903 23.459 1.00 16.19	В
ATOM 1970 CA ALA 1064 7.110 8.040 22.619 1.00 16.46	В
ATOM 1971 CB ALA 1064 6.137 8.884 21.822 1.00 13.15 ATOM 1972 C ALA 1064 7.944 7.168 21.675 1.00 18.81	В
ATOM 1972 C ALA 1064 7.944 7.168 21.675 1.00 18.81 ATOM 1973 O ALA 1064 7.495 6.107 21.230 1.00 19.49	B B
ATOM 1974 N MET 1065 9.146 7.618 21.341 1.00 18.41	B
ATOM 1975 CA MET 1065 10.006 6.830 20.470 1.00 18.27	В
ATOM 1976 CB MET 1065 11.068 7.723 19.806 1.00 14.93	В
ATOM 1977 CG MET 1065 10.536 8.527 18.598 1.00 14.02 ATOM 1978 SD MET 1065 11.809 9.279 17.543 1.00 5.01	B B
ATOM 1979 CE MET 1065 12.396 10.510 18.660 1.00 5.76	В
ATOM 1980 C MET 1065 10.654 5.777 21.348 1.00 18.42	В
ATOM 1981 O MET 1065 10.919 4.659 20.912 1.00 18.34	В
ATOM 1982 N LEU 1066 10.883 6.133 22.607 1.00 19.32 ATOM 1983 CA LEU 1066 11.486 5.219 23.568 1.00 19.77	В
ATOM 1983 CA LEU 1066 11.486 5.219 23.568 1.00 19.77 ATOM 1984 CB LEU 1066 11.992 5.993 24.792 1.00 17.60	B B
ATOM 1985 CG LEU 1066 13.226 6.883 24.643 1.00 17.90	В
ATOM 1986 CD1 LEU 1066 13.634 7.442 26.010 1.00 19.06	В
ATOM 1987 CD2 LEU 1066 14.361 6.091 24.030 1.00 18.79	В
ATOM 1988 C LEU 1066 10.475 4.143 24.017 1.00 21.44 ATOM 1989 O LEU 1066 10.871 3.019 24.337 1.00 22.51	B B
ATOM 1990 N PHE 1067 9.186 4.491 24.058 1.00 20.56	В

Fig. 2A-34

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
1992 1993 19993 19993 19999 19999 19999 19999 19999 19999 19999 19999 20000 20000 20000 20010 20
CABG122 CCCCCCONCCCONCCCONCCCCONCCNH2 CCCCCCCCONCCONCCCCONCCONCCCCCCCCCCCCCC
PHE PHE PHE ALA ALA ALA ALA ALA ALA ALA ALA ALA AL
1067 1067 1067 1067 1067 1067 1067 1067
8.131 6.873 7.151 7.106 6.762 7.780 7.205 8.104 7.7205 8.104 7.742 8.985 10.177 11.364 11.751 10.543 10.105 10.543 10.105 10.211 9.662 8.417 7.311 6.114 5.236 9.150 10.676 11.084 10.676 11.0874 10.676 11.084 10.676 11.084 10.676 11.084 10.676 11.084 10.676 11.084 10.687 10.689 10.6667 11.6667
3.572 4.669 5.312 4.669 5.3657 6.3657
24.456 24.896 26.364 26.379 27.329 28.678 29.0785 20.886 20.724 20.244 21.329 21.889 22.1889 22.1889 23.366 24.294 21.329 21.889 22.497 22.498 22.498 22.5398 21.8785 22.498 22.5398 21.8785 22.4366 22.4376 23.4376 24.4376 2
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
223.54.00 223.50.26.26.20 23.50.26.20 23.50.26.20 23.50.26.20 23.50.20
888888888888888888888888888888888888888

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2105 2106 2107 21108 21109 21111 2111 21111 21111 21111 21111 21111 21111 21111 21111 21111 21111 2111	N CCA CC C O N CCB CCC C C O N CCB CCC C C C C C C C C C C C C C C C	PRO PRO PRO PRO PRO PRO PRO PRO PRO ALA ALA ALA LEU LEU LEU LYS LYS LYS LYS LYS LYS LYS LYS GLU GLU GLU LYS GLU LYS	1081 1081 1081 1081 1081 1082 1082 1083 1083 1083 1083 1083 1084 1084 1084 1084 1084 1085 1085 1085 1085 1085 1086 1087 1087 1087 1087	8.681 8.174 9.359 9.851 7.036 6.805 6.338 5.237 4.767 4.075 3.269 3.975 2.698 2.094 1.974 0.716 3.392 2.610 4.687 5.240 6.744 7.190 8.721 9.269 10.319 5.175 4.650 4.416 4.922 6.409 7.191 6.608 8.376 2.943 2.523 2.155 0.737 0.002 -1.221 0.043 1.057 1.894 2.411 3.893	-15.008 -14.049 -16.399 -16.285 -14.904 -17.237 -18.379 -16.667 -17.355 -16.550 -17.593 -18.500 -16.765 -16.941 -15.642 -14.482 -14.482 -14.880 -18.924 -19.156 -17.669 -17.669 -17.669 -17.669 -17.669 -20.517 -21.569 -21.569 -21.569 -21.440 -21.190 -22.3540 -21.333 -21.667 -21.490 -22.366 -23.366 -2	19.911 20.550 20.137 21.095 20.940 20.756 20.342 21.749 21.749 21.711 20.470 19.504 18.735 19.541 18.650 218.582 18.169 18.237 16.635 16.635 16.964 17.482 19.383 20.191 21.708 2	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	13.95 15.22 11.75 15.22 11.75 15.56 12.59 15.31 14.69 15.42 15.31 17.74 13.47 14.47 14.47 14.47 14.47 14.47 14.47 14.47 14.47 14.53 17.06 17.74 17.33 17.33 17.34	B B B B
ATOM ATOM ATOM ATOM ATOM	2147 2148 2149 2150 2151	N CA CB CCD CE NZ C O N CA CB CG1	LYS LYS LYS LYS LYS LYS LYS LYS VAL VAL	1087 1087 1087 1087 1087	0.716 0.043 1.057 1.894 2.411 3.893 4.576 -0.794 -0.595 -1.784 -2.582 -4.111 -4.346 -4.752	-20.415 -19.869 -19.481 -20.656 -20.449	21.544 22.712 23.795 24.282 25.676	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	23.13 20.37 17.74 17.34 13.37	B B B B B B B B B B B B B B B B B B B

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2162 2163 2164 2165 2166 2167 2168 2169	O N CA CB CG1 CG2 C	VAL VAL VAL VAL VAL VAL VAL	1088 1089 1089 1089 1089 1089 1089	-1.705 -1.697 -1.090 0.319 0.276 0.846 -1.930 -2.329	-15.088 -14.210 -13.777 -13.315 -12.676 -12.970	25.182 23.793 24.797 24.355 22.931 25.254 25.094 24.185	1.00 16.14 1.00 19.93 1.00 20.79 1.00 20.97 1.00 23.46 1.00 21.64 1.00 19.98 1.00 20.42]]]]
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2170 2171 2172 2173 2174 2175 2176 2177 2178	N CA CB CG CD1 CD2 C	LEU LEU LEU LEU LEU LEU CYS	1090 1090 1090 1090 1090 1090 1090 1090	-2.206 -2.979 -3.869 -4.744 -5.272 -5.911 -2.003 -1.115	-11.596 -11.960 -13.213 -13.519 -12.990 -10.478 -10.688	26.376 26.797 27.993 27.915 29.299 26.965 27.182 28.004 26.567	1.00 18.26 1.00 18.09 1.00 18.46 1.00 16.30 1.00 15.78 1.00 17.29 1.00 16.83 1.00 16.59	8 8 8 8 8 8 8 8
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2179 2180 2181 2182 2183 2184 2185 2186	CA CB SG C O N CA CB	CYS CYS CYS CYS CYS ASP ASP	1091 1091 1091 1091 1091 1092 1092 1092	-1.298 -0.601 0.892 -2.163 -3.246 -1.711 -2.541 -2.178	-8.156 -7.734 -6.757 -7.013 -6.782 -6.293 -5.205	26.837 25.547 25.782 27.356 26.833 28.378 28.887 30.324	1.00 19.29 1.00 20.03 1.00 20.36 1.00 20.41 1.00 20.96 1.00 24.12 1.00 29.39 1.00 34.06	B B B B B B
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2187 2188 2189 2190 2191 2192 2193 2194	CG OD1 OD2 C O N CA CB	ASP ASP ASP ASP ARG ARG ARG	1092 1092 1092 1092 1092 1093 1093	-0.755 0.144 -0.534 -2.515 -3.547 -1.348 -1.257 -0.364	-4.853 -5.712 -3.946 -3.508 -3.341 -2.115	30.661 29.835 31.760 28.044 27.551 27.880 27.093 27.826	1.00 40.00 1.00 41.99 1.00 44.28 1.00 29.23 1.00 31.28 1.00 30.00 1.00 30.03 1.00 33.34	B B B B B B B
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2195 2196 2197 2198 2199 2200 2201 2202	CG CD NE CZ NH1 NH2 C	ARG ARG ARG ARG ARG ARG ARG ARG	1093 1093 1093 1093 1093 1093 1093	-1.079 -0.116 -0.013 0.070 0.064 0.163 -0.710	-0.336 0.489 -0.025 0.731 2.059 0.156	28.937 29.801 31.175 32.271 32.186 33.463 25.688 25.509	1.00 41.29 1.00 47.35 1.00 53.87 1.00 56.53 1.00 57.47 1.00 57.04 1.00 27.93 1.00 26.93	B B B B B B
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2203 2204 2205 2206 2207 2208 2209 2210	N CA CB CG CD1 CE1 CD2 CE2	TYR TYR TYR TYR TYR TYR TYR TYR	1094 1094 1094 1094 1094 1094 1094	-1.232 -0.749 -1.493 -0.635 0.662 1.504 -1.086 -0.252	-1.676 -1.842 -2.967 -3.606 -4.029 -4.534	24.690 23.327 22.595 21.522 21.815 20.822 20.202 19.197	1.00 25.26 1.00 23.35 1.00 24.45 1.00 23.14 1.00 22.25 1.00 22.52 1.00 21.33 1.00 21.33	B B B B B B
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2211 2212 2213 2214 2215 2216 2217 2218	CEZ OH C O N CA CB CG2	TYR TYR TYR TYR ILE ILE ILE	1094 1094 1094 1094 1095 1095 1095	1.042 1.895 -0.843 -0.866 -0.899 -0.952 -0.908	-4.632 -5.106 -0.551	19.518 18.543 22.526 23.106 21.198 20.310 18.803 18.542	1.00 23.16 1.00 19.75 1.00 22.64 1.00 22.16 1.00 22.73 1.00 23.36 1.00 22.04 1.00 20.47	B B B B B B B

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Fig. 2A-39

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Perent: 09/632,553)

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ATOM 2276 O GLN 1102 ATOM 2277 N GLY 1103 ATOM 2278 CA GLY 1103 ATOM 2279 C GLY 1103 ATOM 2280 O GLY 1103 ATOM 2281 N TYR 1104 ATOM 2282 CA TYR 1104 ATOM 2283 CB TYR 1104 ATOM 2284 CG TYR 1104 ATOM 2285 CD1 TYR 1104 ATOM 2286 CE1 TYR 1104 ATOM 2287 CD2 TYR 1104 ATOM 2288 CE2 TYR 1104 ATOM 2288 CE2 TYR 1104 ATOM 2289 CZ TYR 1104 ATOM 2280 CZ TYR 1104 ATOM 2290 OH TYR 1104 ATOM 2291 C TYR 1104 ATOM 2291 C TYR 1104 ATOM 2292 O TYR 1104 ATOM 2293 N ALA 1105 ATOM 2294 CA ALA 1105 ATOM 2295 CB ALA 1105 ATOM 2296 C ALA 1105 ATOM 2297 O ALA 1105 ATOM 2298 N ARG 1106 ATOM 2299 CA ARG 1106 ATOM 2300 CB ARG 1106 ATOM 2301 CG ARG 1106 ATOM 2301 CG ARG 1106 ATOM 2302 CD ARG 1106 ATOM 2303 NE ARG 1106 ATOM 2304 CZ ARG 1106 ATOM 2305 NH1 ARG 1106 ATOM 2307 C ARG 1106 ATOM 2308 O ARG 1106 ATOM 2309 N GLY 1107 ATOM 2311 C GLY 1107 ATOM 2312 O GLY 1107 ATOM 2313 N ILE 1108 ATOM 2314 CA ILE 1108 ATOM 2315 CB ILE 1108 ATOM 2316 CG2 ILE 1108 ATOM 2317 CG1 ILE 1108 ATOM 2318 CD1 ILE 1108 ATOM 2319 C ILE 1108 ATOM 2310 CA GLY 1107 ATOM 2311 C GLY 1107 ATOM 2312 O GLY 1107 ATOM 2313 N ILE 1108 ATOM 2314 CA ILE 1108 ATOM 2315 CB ILE 1108 ATOM 2316 CG2 ILE 1108 ATOM 2317 CG1 ILE 1108 ATOM 2318 CD1 ILE 1108 ATOM 2319 C ILE 1108 ATOM 2320 C GLY 1107 ATOM 2321 N GLY 1107 ATOM 2322 CA GLY 1107 ATOM 2323 C GLY 1107 ATOM 2324 O GLY 1107 ATOM 2325 N VAL 1110 ATOM 2327 CB VAL 1110 ATOM 2328 CG VAL 1110 ATOM 2329 CG2 VAL 1110 ATOM 2320 C VAL 1110 ATOM 2321 N GLY 1107 ATOM 2321 N GLY 1107 ATOM 2322 CA GLY 1107 ATOM 2323 C GLY 1107 ATOM 2324 O GLY 1107 ATOM 2325 N VAL 1110 ATOM 2327 CB VAL 1110 ATOM 2328 CG VAL 1110 ATOM 2329 CG2 VAL 1110 ATOM 2320 C VAL 1110 ATOM 2321 N GLY 1107 ATOM 2322 CA GLY 1107 ATOM 2323 N GLY 1111
-1.118 -1.435 -2.639 -2.980 -3.289 -4.462 -5.728 -7.009 -7.899 -9.092 -7.342 -8.532 -9.399 -10.580 -4.368 -4.084 -4.603 -4.568 -4.724 -3.311 -3.292 -2.245 -1.052 0.171 0.512 1.608 2.618 3.666 4.538 3.844 -0.874 0.016 -1.754 -1.727 -0.520 -0.138 0.099 1.243 2.105 2.966 2.971 3.836 0.664 1.328
10.111 10.542 11.447 12.096 11.476 12.307 11.457 12.255 12.279 12.995 12.977 13.696 13.698 14.385 13.120 14.312 12.475 13.170 12.193 14.002 14.903 13.687 14.485 13.170 12.193 14.002 14.903 13.687 14.485 13.170 12.193 14.002 14.903 13.687 14.485 13.170 12.193 14.002 14.903 13.687 14.485 13.170 12.193 13.706 13.117 12.453 15.351 16.184 15.153 15.945 13.319 11.183 15.351 16.184 15.153 15.945 11.183 15.351 16.184 15.153 15.945 11.183 15.351 16.184 15.153 15.945 11.183 15.351 16.184 15.153 15.945 11.183 15.351 16.184 15.153 15.945 11.183 15.153 15.945 11.183 15.351 16.184 15.153 17.90 1
7066875244777912333352961116666555550001118211.5563639599611166665.444337862809996881422222222222222222222222222222222222
1.00 32.42 1.00 31.22 1.00 29.67 1.00 29.68 1.00 29.23 1.00 30.59 1.00 31.86 1.00 32.53 1.00 32.72 1.00 32.16 1.00 37.92 1.00 37.92 1.00 27.49 1.00 27.61 1.00 27.61 1.00 27.36 1.00 27.61 1.00 27.36 1.00 27.36

Fig. 2A-40

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE **Applicant(s):** Timothy E. Benson **Serial No.:** Unassigned (Parent: 09/632,553) **Filed:** Herewith (Parent: Aug. 4, 2000) **D cket:** 6245.N DV1

Express Mail No.: EV 073687660 US

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ATOM	2333	C 70	CTII	1111	1 470	10.023	12.504	1 00	28.73	В
ATOM	2333	CA CB	GLU GLU	1111	-1.479 -1.601	11.081	11.399	1.00	32.99	В
MOTA	2335	CG	GLU	1111	-1.332	10.580	9.973	1.00	40.15	В
ATOM	2336	CD OF	GLU	1111	-1.430	11.689	8.910	1.00	44.62	В
ATOM ATOM	2337 2338		GLU GLU	$\begin{array}{c} 1111\\1111\end{array}$	-2.226 -0.709	12.641 11.607	9.102 7.883	1.00	45.80 43.93	В В
ATOM	2339		GLU	1111	0.000	9.829	12.875	1.00	27.92	В
MOTA	2340	0	GLU	1111	0.630	8.836	12.507	1.00	26.58	В
ATOM	2341		GLU	1112	0.548	10.790	13.611	1.00	27.44	В
ATOM ATOM	2342 2343		GLU GLU	1112 1112	1.939 2.307	10.734 11.994	14.026 14.814	1.00	26.88 30.38	В В
ATOM	2344		GLU	1112	2.355	13.265	13.982	1.00	34.98	В
ATOM	2345		GLU	1112	0.980	13.762	13.615	1.00	38.08	В
ATOM ATOM	2346 2347		GLU GLU	1112 1112	0.350 0.524	13.145 14.763	12.737 14.205	1.00	41.07 43.10	B B
ATOM	2348		GLU	1112	2.233	9.504	14.885	1.00	24.78	В
MOTA	2349		GLU	1112	3.104	8.703	14.561		23.69	В
ATOM ATOM	2350 2351		VAL VAL	1113 1113	1.498 1.696	9.364 8.244	15.982 16.898	1.00 1.00	22.58 21.00	B B
ATOM	2352		VAL	1113	0.834	8.431	18.173	1.00	20.77	В
MOTA	2353	CG1	VAL	1113	0.795	7.142	18.993	1.00	15.86	В
ATOM ATOM	2354 2355		VAL VAL	1113 1113	1.412 1.381	9.590 6.904	19.007 16.230	$1.00 \\ 1.00$	17.95 22.76	В В
ATOM	2356		VAL	1113	2.094	5.923	16.426	1.00	21.29	В
ATOM	2357		ARG	1114	0.317	6.866	15.438	1.00	22.71	В
ATOM ATOM	2358 2359		ARG ARG	$\frac{1114}{1114}$	-0.061 -1.435	5.642 5.806	14.755 14.076	1.00	24.17 27.34	В В
ATOM	2360		ARG	1114	-1.433	5.396	12.613	1.00	29.25	В
MOTA	2361	CD	ARG	1114	-2.927	5.170	12.172	1.00	33.08	В
ATOM ATOM	2362 2363		ARG ARG	$\frac{1114}{1114}$	-3.163 -4.314	5.657 5.521	10.815 10.161	1.00	39.60 42.60	В В
ATOM	2364		ARG	1114	-4.314 -4.447	5.996	8.924		41.67	В
MOTA	2365	NH2	ARG	1114	-5.335	4.904	10.749	1.00	45.60	В В
ATOM	2366 2367		ARG	$\begin{array}{c} 1114 \\ 1114 \end{array}$	0.989 1.049	5.217	13.735 13.366	1.00 1.00	23.63 25.12	В
ATOM ATOM	2368		ARG ALA	1114	1.814	4.055 6.149	13.306	1.00	23.12	B B
MOTA	2369	CA	ALA	1115	2.850	5.823	12.302	1.00	23.27	В
ATOM ATOM	2370 2371		ALA ALA	1115 1115	3.229 4.061	7.073 5.288	11.508 13.056	1.00	23.40 22.63	В
ATOM	2371		ALA	1115	4.756	4.375	12.608	1.00	21.65	B B
MOTA	2373	N	LEU	1116	4.326	5.875	14.209	1.00	21.69	В
ATOM	2374 2375		LEU LEU	1116 1116	5.450 5.637	5.428 6.380	15.009 16.195	1.00 1.00	22.66 19.73	B B
ATOM ATOM	2376		LEU	1116	6.623	5.994	17.291		19.75	В
MOTA	2377	CD1	LEU	1116	8.026	5.762	16.720	1.00	19.30	В
ATOM ATOM	2378		LEU LEU	1116	6.648 5.168	7.113	18.320	1.00	19.80 23.19	В
ATOM	2379 2380	CO	LEU	$\frac{1116}{1116}$	6.087	3.989 3.180	15.479 15.638	1.00	23.19	В В
MOTA	2381	N	ASN	1117	3.887	3.675	15.675	1.00	21.59	В
ATOM ATOM	2382 2383		ASN ASN	1117 1117	3.472 2.027	2.358 2.409	16.134 16.626	$\frac{1.00}{1.00}$	20.92	B B
ATOM	2384		ASN	1117	1.874	3.208	17.910	1.00	19.28	В
MOTA	2385	OD1	ASN	1117	2.670	3.074	18.844	1.00	21.02	В
ATOM ATOM	2386 2387		ASN ASN	$\frac{1117}{1117}$	0.851 3.616	4.044 1.290	17.962 15.067	1.00 1.00	22.77 20.73	B B
ATOM	2388		ASN	1117	3.993	0.166	15.364	1.00	22.14	В
ATOM	2389		GLU	1118	3.304	1.637	13.826	1.00	22.14	В

Fig. 2A-41

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

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	0000		1110	2 415	0 705	10 700	1 00 01 00	_
ATOM ATOM	2390 2391	CA GLU CB GLU	$\frac{1118}{1118}$	3.415 2.893	0.705 1.350	12.703 11.418	1.00 21.22 1.00 22.82	B B
MOTA	2392	CG GLU	1118	1.401	1.619	11.426	1.00 29.23	В
ATOM ATOM	2393 2394	CD GLU OE1 GLU	1118 1118	0.974 1.864	2.624 3.207	10.364 9.705	1.00 34.01 1.00 37.19	B B
ATOM	2395	OE2 GLU	1118	-0.251	2.831	10.189	1.00 35.89	В
MOTA	2396	C GLU	1118	4.857	0.286	12.490	1.00 17.92	В
ATOM ATOM	2397 2398	O GLU N PHE	1118 1119	5.126 5.779	-0.828 1.191	12.051 12.797	1.00 17.40 1.00 16.29	B B
ATOM	2399	CA PHE	1119	7.198	0.921	12.633	1.00 16.74	В В В
MOTA MOTA	2400 2401	CB PHE	1119 1119	7.987 9.425	2.235 2.101	12.687 12.269	1.00 15.46 1.00 17.12	B
MOTA	2402	CD1 PHE	1119	9.770	2.043	10.917	1.00 17.63	В
MOTA MOTA	2403 2404	CD2 PHE CE1 PHE	1119 1119	10.437 11.100	2.013 1.895	13.223 10.522	1.00 16.08 1.00 16.56	B B B B B
ATOM	2405	CE2 PHE	1119	11.778	1.864	12.835	1.00 17.38	В
MOTA	2406	CZ PHE	1119	12.102	1.805	11.478	1.00 16.85 1.00 16.33	В
MOTA MOTA	2407 2408	C PHE O PHE	1119 1119	7.661 8.508	-0.023 -0.892	13.739 13.519	1.00 16.33	В
MOTA	2409	N ALA	1120	7.081	0.157	14.922	1.00 15.89	В
ATOM ATOM	2410 2411	CA ALA CB ALA	1120 1120	7.406 6.891	-0.651 0.030	16.099 17.376	1.00 15.09 1.00 13.29	B B
MOTA	2412	C ALA	1120	6.836	-2.056	16.025	1.00 14.89	B B B
MOTA MOTA	2413 2414	O ALA N ILE	$\frac{1120}{1121}$	7.513 5.590	-3.010 -2.171	16.375 15.570	1.00 12.96 1.00 17.65	В В
MOTA	2415	CA ILE	1121	4.922	-3.462	15.491	1.00 18.26	В
ATOM ATOM	2416 2417	CB ILE	$\frac{1121}{1121}$	3.434 3.337	-3.351 -2.495	15.936 17.194	1.00 17.95 1.00 17.06	B
MOTA	2418	CG1 ILE	1121	2.579	-2.746	14.828	1.00 15.09	B B B B
ATOM ATOM	2419 2420	CD1 ILE C ILE	$\frac{1121}{1121}$	1.134 4.988	-2.568 -4.143	15.225 14.133	1.00 6.57 1.00 20.38	В
MOTA	2421	O ILE	1121	4.519	-5.266	13.986	1.00 24.10	В
ATOM ATOM	2422 2423	N ASN CA ASN	1122 1122	5.568 5.719	-3.470 -4.035	13.148 11.807	1.00 20.82 1.00 21.45	B B
ATOM	2424	CB ASN	1122	7.061	-4.768	11.698	1.00 21.13	В
ATOM	2425	CG ASN	1122	7.440	-5.078 -4.439	10.271 9.336	1.00 20.27 1.00 21.11	B B B B B B
ATOM ATOM	2426 2427	OD1 ASN ND2 ASN	1122 1122	6.959 8.306	-4.439 -6.062	10.092	1.00 21.11	В
MOTA	2428	C ASN	1122	4.612	-4.990	11.381	1.00 21.69	В
ATOM ATOM	2429 2430	O ASN N GLY	1122 1123	4.874 3.375	-6.151 -4.509	11.071 11.383	1.00 20.30 1.00 23.81	B B
MOTA	2431	CA GLY	1123	2.263	-5.343	10.965	1.00 24.34	В
ATOM ATOM	2432 2433	C GLY O GLY	1123 1123	1.588 0.440	-6.201 -6.614	12.024 11.846	1.00 25.43 1.00 27.35	B B
MOTA	2434	N LEU	1124	2.268	-6.475	13.130	1.00 24.26	В
ATOM ATOM	2435 2436	CA LEU CB LEU	1124 1124	1.661 2.707	-7.315 -7.731	14.154 15.196	1.00 23.10 1.00 22.68	B B
MOTA	2437	CG LEU	1124	2.360	-8.859	16.183	1.00 23.66	В
ATOM ATOM	2438 2439	CD1 LEU CD2 LEU	1124 1124	1.776 3.621	-10.070 -9.238	15.460 16.945	1.00 21.86 1.00 21.50	B B
ATOM	2440	C LEU	1124	0.504	-6.599	14.830	1.00 22.00	В
ATOM ATOM	2441 2442	O LEU N TYR	1124 1125	0.716 -0.717	-5.765 -6.903	15.697 14.404	1.00 23.01 1.00 21.14	B B
MOTA	2443	CA TYR	1125	-1.895	-6.316	15.010	1.00 20.80	В
ATOM ATOM	2444 2445	CB TYR	1125 1125	-2.886 -2.446	-5.823 -4.551	13.964	1.00 20.70 1.00 23.73	B B
ATOM	2445	CD1 TYR	1125	-1.857	-4.531 -4.570	12.047	1.00 23.75	В

Fig. 2A-42

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2447 2448 2449 2450 2451 2452 2453 2454	CD2 TY CE2 TY CZ TY OH TY C TY N PI	YR 1125 YR 1125 YR 1125 YR 1125 YR 1125 YR 1125 YR 1125 RO 1126	-1.357 -2.535 -2.035 -1.443 -0.907 -2.534 -2.396	-3.331 -2.161 -2.215 -1.080 -7.422 -8.606 -7.050	11.472 13.985 13.418 12.163 11.616 15.819 15.487 16.904	1.00 24.88 1.00 23.01 1.00 24.99 1.00 25.15 1.00 28.59 1.00 22.66 1.00 21.46 1.00 23.29	
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2455 2456 2457 2458 2459 2460 2461 2462	CA PICE CB PIC	RO 1126 RO 1126 RO 1126 RO 1126 RO 1126 RO 1126 SP 1127	-3.432 -3.923 -4.407 -3.674 -5.078 -5.803 -5.259	-8.001 -7.128 -5.817 -8.695 -8.066 -9.986 -10.726	17.355 17.792 18.958 18.826 17.089 16.319 17.354 16.733	1.00 24.64 1.00 22.02 1.00 22.11 1.00 22.45 1.00 21.26 1.00 21.43 1.00 20.33 1.00 20.02	F F F F F
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2463 2464 2465 2466 2467 2468 2469 2470	CG AS OD1 AS OD2 AS C AS O AS N LI CA LI	SP 1127 SP 1127 SP 1127 SP 1127 SP 1127 SP 1127 EU 1128 EU 1128	-6.101 -4.741 -4.513 -3.897 -7.662 -8.730 -7.581 -8.762	-12.621 -12.526 -13.016 -10.347 -10.450 -9.927 -9.493	16.843 16.336 15.111 17.159 17.408 16.806 18.665 19.397	1.00 19.31 1.00 19.57 1.00 23.88 1.00 20.10 1.00 20.62 1.00 21.79 1.00 18.84 1.00 18.05	F F F F F
ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2471 2472 2473 2474 2475 2476 2477 2478	CB LI CG LI CD1 LI CD2 LI C LI O LI N TI	EU 1128 EU 1128 EU 1128 EU 1128 EU 1128 EU 1128 HR 1129	-9.438 -10.637 -11.880 -10.872 -8.359 -7.355 -9.126 -8.846	-10.671 -10.276 -10.107 -11.314 -8.425 -8.576 -7.337	20.117 20.999 20.142 22.063 20.418 21.133 20.464 21.412	1.00 17.38 1.00 17.18 1.00 16.50 1.00 12.68 1.00 17.71 1.00 14.55 1.00 16.59 1.00 17.61	E E E E E E
ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2479 2480 2481 2482 2483 2484 2485	CB THOUSE CG2 THOUSE CG2 THOUSE CG2 THOUSE CG2 THOUSE CG3 THOUSE C	HR 1129 HR 1129 HR 1129 HR 1129 HR 1129 LE 1130 LE 1130	-8.430 -7.048 -8.595 -10.061 -11.140 -9.873 -10.949	-4.957 -5.041 -3.766 -6.005 -5.620 -6.215 -6.019	20.698 20.327 21.620 22.293 21.827 23.586 24.534	1.00 16.39 1.00 18.55 1.00 14.98 1.00 18.31 1.00 16.46 1.00 19.55 1.00 20.15]]]]]
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2486 2487 2488 2489 2490 2491 2492 2493	CG2 II CG1 II CD1 II C II O II N TY	LE 1130 LE 1130 LE 1130 LE 1130 LE 1130 LE 1130 YR 1131 YR 1131	-10.839 -9.875 -12.222 -12.901 -10.920 -9.907 -12.032 -12.111	-6.595 -7.359 -8.558 -4.601 -4.157 -3.888	25.654 26.718 26.218 25.553 25.104 25.641 24.964 25.463	1.00 22.17 1.00 25.57 1.00 24.34 1.00 26.77 1.00 18.05 1.00 15.53 1.00 17.12 1.00 17.86]]]]]]
ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2494 2495 2496 2497 2498 2499 2500	CB TY CG TY CD1 TY CE1 TY CD2 TY CE2 TY	YR 1131 YR 1131 YR 1131 YR 1131 YR 1131 YR 1131 YR 1131	-12.111 -12.551 -12.617 -11.541 -11.602 -13.753 -13.825 -12.746	-1.568 -0.125 0.470 1.802 0.645 1.973	24.356 24.814 25.481 25.911 24.581 25.005 25.665	1.00 17.86 1.00 18.79 1.00 19.68 1.00 20.60 1.00 20.00 1.00 18.87 1.00 20.13 1.00 20.38	F F F F
ATOM ATOM ATOM	2501 2502 2503	OH TY	YR 1131 YR 1131 YR 1131 YR 1131	-12.815 -13.044 -14.246	3.864 -2.364	26.074 26.653 26.549	1.00 17.75 1.00 17.45 1.00 19.94	H H H

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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ATOM 2 ATOM 3 AT
2506 2506 2506 2506 2506 2506 2506 2506 2506 2506 2507 2506 2507 2506 2507 2507 2508 2509
CABCCCC ON ABCCCCC ON ABCCCCCON ABCCCCC ON A
VAL VAL VAL
1132 1132 1132 1132 1133 1133 1133 1133
-132-1102-133-15-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-15-17-19-16-16-17-17-18-17-18-17-18-17-18-17-18-17-18-18-18-18-18-18-18-18-18-18-18-18-18-
2617261726172617261726172617261726172617
-1.74.833.164422066.333.34.41110.33.345.00112.33.34.4095.330.340.340.340.340.340.340.340.340.340
27.7996 27.
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
16.13.87 16.13.
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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
12256345667890123456789012322222222222222222222222222222222222
CONCABCO NA CBCC NA CB
ARGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG
$\begin{array}{c} 11400001111411111111111111111111111111$
-98991011131011866579.
$\begin{matrix} 66815437477455702534697389244477057217282356303360532993924447705721728803336058873225888917577568397328891757756839732889175775683973288917577568397328891757756839732889177568397328891777568397328891775683973288917756839732889177568397328891775683977328891775683973288917756891$
11.340 12.546 112.546 112.546 112.5369 12.5369 12.5369 12.5369 12.5369 12.5369 12.5369 12.5369 12.5369 12.5369 13.5369
39.733 38.7333 38.7373 39.7786 40.0786 41.4793 40.5887 40.96374 41.4793 42.1787 43.1787 44.178
1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
17.85 16.17 23.64 22.06 24.14 22.97 27.60 30.88 33.55 31.14 25.69 26.25 26.22 21.26 18.77 16.76 226.26 24.83 24.83 24.83 24.83 24.83 24.83 24.83 24.83 24.83 24.83 28.93
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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM
89012345678901234567890123456789012345678901234567777 619012345678901234567890123456789012345677777 22222222222222222222222222222222
CD GLU OE1 GLU OE2 GLU OE2 GLU C GLU OE2 GLU C GLU OE3 ASP CA ASP CB ASP CD ASP OD2 ASP OD2 ASP CD LEU CD2 LEU CD3 LEU CD4 LYS CD LYS C
1156 1156 1156 1156 1157 1157 1157 1157
-11.119 -10.771 -11.920 -8.649 -8.608 -7.983 -7.114 -6.082 -4.973 -4.036 -7.951 -7.500 -9.180 -10.122 -11.577 -12.740 -11.738 -10.742 -11.577 -12.740 -11.577 -12.740 -11.577 -12.740 -11.577 -12.740 -11.738 -10.740 -9.606 -8.9437 -8.277 -6.894 -7.720 -6.894 -7.7566 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -7.763 -8.9218 -10.6566 -7.666 -7.667 -9.323 -10.6568 -11.7653 -10.653 -11.7653 -12.5820 -11.7368 -11.7488
21.441 20.054 18.966 19.597 17.208 16.337 16.3591 15.225 16.235 16.245 16.257 17.257 1
40.172 41.291 40.024 37.047 35.988 37.262 37.019 36.603 36.603 37.550
1.00 55.73 1.00 56.94 1.00 56.37 1.00 52.69 1.00 51.79 1.00 49.12 1.00 49.78 1.00 51.42 1.00 50.10 1.00 45.76 1.00 45.76 1.00 43.63 1.00 41.40 1.00 41.39 1.00 40.06 1.00 39.05 1.00 39.05 1.00 39.05 1.00 39.66 1.00 41.35 1.00 41.48 1.00 41.35 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.28 1.00 37.36 1.00 37.36 1.00 37.28 1.00 37.36 1.00 37.36 1.00 37.36 1.00 37.28 1.00 37.28
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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

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ATOM	2675	OE2	${\tt GLU}$	1162	-16.052	14.954	30.186	1.00 50.60	В
MOTA	2676	С	GLU	1162	-11.161	12.908	28.590	1.00 33.86	В
ATOM	2677	Ō	GLU	1162	-11.866	12.649	27.614	1.00 32.85	В
ATOM	2678	Ň	LYS	1163	-9.881	13.260	28.481	1.00 31.94	В
ATOM	2679	CA	LYS	1163	-9.222	13.364	27.176	1.00 31.73	В
									D G
MOTA	2680	CB	LYS	1163	-7.893	14.115	27.282	1.00 32.90	В
ATOM	2681	CG	LYS	1163	-7.950	15.612	27.073	1.00 34.32	В
MOTA	2682	CD	LYS	1163	-6.901	16.253	27.969	1.00 38.71	В
MOTA	2683	CE	LYS	1163	- 7.052	17.760	28.089	1.00 39.61	В
MOTA	2684	NZ	LYS	1163	-5.774	18.375	28.577	1.00 39.38	В
MOTA	2685	С	LYS	1163	-8.935	11.991	26.585	1.00 29.67	В
ATOM	2686	0	LYS	1163	-9.203	11.746	25.411	1.00 30.23	В
ATOM	2687	N	VAL	1164	-8.365	11.106	27.397	1.00 27.87	В
ATOM	2688	CA	VAL	1164	-8.038	9.762	26.946	1.00 27.20	В
ATOM	2689	CB	VAL	1164	-7.331	8.968	28.054	1.00 26.82	В
ATOM	2690	CG1		1164	-6.748	7.686	27.472	1.00 28.40	В
ATOM	2691	CG2	VAL	1164	-6.230	9.826	28.684	1.00 24.86	В
					-9.296	9.021	26.513	1.00 24.00	В
MOTA	2692	C	VAL	1164	-9.333		25.432		
MOTA	2693	0	VAL	1164		8.439		1.00 26.76	В
MOTA	2694	N	ILE	1165	-10.332	9.064	27.354	1.00 31.31	В
MOTA	2695	CA	ILE	1165	-11.603	8.399	27.058	1.00 31.66	В
MOTA	2696	CB	ILE	1165	-12.667	8.687	28.145	1.00 32.11	В
MOTA	2697	CG2	ILE	1165	-14.013	8.082	27.733	1.00 30.75	В
MOTA	2698	CG1	ILE	1165	-12.220	8.098	29.486	1.00 31.53	В
MOTA	2699	CD1	ILE	1165	-13.181	8.374	30.633	1.00 31.11	В
MOTA	2700	С	ILE	1165	-12.174	8.820	25.706	1.00 32.95	В
MOTA	2701	0	ILE	1165	-12.857	8.036	25.051	1.00 34.16	В
MOTA	2702	N	GLU	1166	-11.922	10.059	25.297	1.00 34.96	В
MOTA	2703	CA	GLU	1166	-12.418	10.512	24.005	1.00 35.90	В
MOTA	2704	CB	GLU	1166	-12.439	12.042	23.911	1.00 40.19	B
MOTA	2705	CG	GLU	1166	-13.254	12.540	22.718	1.00 48.35	B
ATOM	2706	CD	GLU	1166	-13.408	14.054	22.670	1.00 53.25	B
ATOM	2707	OE1	GLU	1166	-13.548	14.678	23.746	1.00 56.10	В
ATOM	2708	OE2	GLU	1166	-13.395	14.621	21.553	1.00 54.50	В
					-11.528	9.936	22.908	1.00 34.58	ם
ATOM	2709	C	GLU	1166					В
ATOM	2710	0	GLU	1166	-11.974	9.748	21.777	1.00 35.86	В
ATOM	2711	N	GLY	1167	-10.270	9.654	23.248	1.00 33.49	В
ATOM	2712	CA	GLY	1167	-9.347	9.076	22.279	1.00 29.33	В
MOTA	2713	C	GLY	1167	-9.755	7.646	21.953	1.00 28.37	В
MOTA	2714	0	GLY	1167	-9.763	7.225	20.787	1.00 27.68	В
ATOM	2715	N	TYR	1168	-10.115	6.905	22.999	1.00 26.42	В
MOTA	2716	CA	TYR	1168	-10.549	5.522	22.878	1.00 23.05	В
ATOM	2717	CB	TYR	1168	-10.635	4.886	24.266	1.00 19.40	В
MOTA	2718	CG	TYR	1168	-9.325	4.333	24.804	1.00 17.64	В
ATOM	2719	CD1	TYR	1168	-8.857	4.689	26.070	1.00 15.43	В
MOTA	2720	CE1	TYR	1168	-7.686	4.132	26.590	1.00 12.34	В
MOTA	2721	CD2	TYR	1168	-8.576	3.410	24.067	1.00 18.04	В
ATOM	2722	CE2	TYR	1168	-7.396	2.848	24.587	1.00 15.67	В
ATOM	2723	CZ	TYR	1168	-6.965	3.212	25.847	1.00 11.37	В
ATOM	2724	ŎН	TYR	1168	-5.836	2.624	26.369	1.00 11.10	В
ATOM	2725	C	TYR	1168	-11.916	5.465	22.200	1.00 24.16	B
MOTA	2726	ŏ	TYR	1168	-12.147	4.637	21.317	1.00 25.88	В
ATOM	2727	N	GLN	1169	-12.819	6.352	22.617	1.00 24.30	В
MOTA	2728	CA	GLN	1169	-14.169	6.409	22.056	1.00 25.80	В
MOTA	2729	CB	GLN	1169	-15.003	7.482	22.769	1.00 28.84	В
ATOM	2730	CG	GLN	1169	-15.561	7.074	24.138	1.00 20.04	В
ATOM	2731	CD	GLN	1169	-16.011	5.622	24.130	1.00 32.63	В
AIOM	2131	CD	GTIA	T T O 3	-10.011	J. 022	74.130	1.00 33.07	ם

Fig. 2A-47

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Fig. 2A-48

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	27991 27991 27993 27993 27999 2799 27999 2799 27999 27999 27999 27999 27999 27999 27999 27999 27999 27999 27	N CA CB CC CO NE2 CO N CA CB CCD1 CO N CA CB CCD1 CC	GLU GLU ASN ASN ASN ASN ASN ASN ASN VAL VAL	1186 1186 1186 1186 1186 1186 1188 1188	-20.378 -20.655 -21.287 -21.920 -21.762 -21.660 -22.529 -20.200 -19.017 -20.584 -21.959 -19.621 -21.872 -18.729 -19.621 -17.346 -16.236 -15.041 -13.972 -18.879 -20.13.416 -16.168 -17.348 -17.745 -18.879 -20.19.879 -20.19.879 -20.19.849 -21.13.416 -16.568 -17.346 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345 -16.568 -17.345	-11.169 -10.991 -9.321 -10.292 -8.346 -8.367 -7.319 -7.611 -7.640 -7.820 -8.107 -8.865 -7.015 -6.687 -5.626	36.687 35.0898 35.0898 35.2307 33.3077 33.3077 33.3097	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	24.85 25.72 24.55 25.24 25.24 26.99 23.99 24.55 26.77 26.77 26.78 28.88 27.37 26.79 27.30 27.30 37.60 40.79 45.62 45.77 45.62 45.77	***************************************
ATOM ATOM ATOM ATOM	2829 2830 2831 2832	C O N CA CG1 CG2 C O N CA CB CG1 CG2 C O CG1 CG2 C C O C C O C C C O C C C C O C C C C	ASN ASN VAL VAL VAL VAL	1190 1190 1191 1191	-18.602 -18.513 -17.852 -16.831 -15.849 -14.845 -16.621 -16.052 -15.708 -14.972 -14.608 -13.608 -14.062 -15.748 -15.434	-8.107 -8.865 -7.015 -6.687 -5.626 -5.216 -4.432 -7.972 -8.269 -8.751 -9.992 -10.684 -11.776 -9.699 -11.009	34.701 33.725 34.841 33.858	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	33.70 35.35 30.81 29.71 28.83 27.90 25.92 29.17 28.36 29.21 30.67 30.86 30.14	B B B B

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

Docket: 6245.N DV1

Express Mail No.: EV 073687660 US

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	28447849012345567889012322222222222222222222222222222222222	CA GLU CB GLU CB GLU CC GLU CD GLU OE1 GLU OE2 GLU OE2 GLU OE3 GLU CC GLU OE3 GLU CC GLU OE4 ASP CC THR CC THR CC THR CC TYR CC TYR CC TYR CC GLU CC TYR CC TYR CC TYR CC GLU CC TYR CC TYR CC TYR CC TYR CC GLU CC TYR CC TYR CC TYR CC CC TYR CC	1193 1193 1193 1193 1193 1193 1193 1193	-17.592 -12.590 -18.878 -12.866 -20.023 -11.850 -21.244 -12.230 -21.158 -13.179 -22.294 -11.569 -17.924 -12.145 -17.712 -12.889 -18.386 -10.894 -18.737 -10.338 -19.166 -8.890 -20.659 -8.745 -21.333 -9.773 -21.178 -7.629 -17.562 -10.410 -17.722 -10.689 -16.380 -10.120 -15.166 -10.119 -14.098 -9.222 -13.181 -8.705 -13.326 -9.992 -14.675 -11.568 -13.952 -11.872 -15.124 -12.464 -14.739 -13.847 -15.030 -14.601 -14.757 -16.094 -13.447 -16.582 -13.187 -17.945 -15.806 -17.020 -15.552 -18.395 -14.244 -18.849 -14.020 -20.213 -15.507 -14.472 -14.917 -15.122 -16.825 -14.280 -17.693 -14.812 -19.105 -14.229 -20.091 -15.064 -19.537 -16.421 -19.363 -16.717 -19.247 -17.255 -17.144 -14.413 -17.065 -15.221 -16.760 -13.145 -16.724 -11.563 -15.828 -11.089 -16.727 -10.367 -15.297 -10.367 -15.297 -10.367 -15.297 -10.367 -15.977 -10.367 -15.297 -10.367 -15.977 -10.367 -15.977 -10.367 -15.997 -10.367	33.483 34.297 35.8897 35.8829 31.071 35.8829 32.053 31.927 30.6689 31.6689 30.66453 30.66453 30.66453 30.66453 30.66453 30.66453 31.1849 28.183 31.149 28.181 29.283 31.1062 31.106	1.00 36.11 1.00 43.09 1.00 46.41 1.00 47.71 1.00 45.13 1.00 36.07 1.00 34.08 1.00 36.37 1.00 36.05 1.00 37.45 1.00 38.47 1.00 38.47 1.00 35.69 1.00 37.76 1.00 37.76 1.00 37.77 1.00 37.71 1.00 37.71 1.00 37.71 1.00 37.71 1.00 40.59 1.00 40.59 1.00 57.72 1.00 57.82 1.00 57.82 1.00 57.72 1.00 57.72 1.00 57.72 1.00 57.72 1.00 39.80 1.00 37.71 1.00 40.59 1.00 57.72 1.00 57.72 1.00 57.72 1.00 39.80 1.00 37.71 1.00 39.80 1.00 37.71 1.00 39.80 1.00 37.71 1.00 39.80 1.00 37.74 1.00 39.80 1.00 37.74 1.00 39.83 1.00 37.74	888888888888888888888888888888888888888

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOGOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2904 2904 2906 2906 2907 2908 2911 29113 29114 29117 29118 29117 29118 2	CONCABCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	LE LYS LYS LYS LYS LYS LYS LYS TYR	1199 1199 1200 1200 1200 1200 1200 1200	-12.3 -13.6 -13.9 -14.8 -14.8 -15.9 -13.8 -14.4 -14.7 -14.5 -15.7 -16.5 -17.6 -18.8 -20.1 -11.8 -10.5 -11.8 -11.8 -10.5 -12.2 -10.6 -13.8 -12.8 -12.8 -12.8 -12.8 -12.8	68 -18.770 89 -19.944 75 -17.774 59 -18.744 04 -16.864 52 -16.955 31 -15.873 25 -16.155 17 -15.129 07 -14.210 31 -13.181 48 -16.789 84 -17.351 84 -16.005 13 -15.737 -14.249 67 -13.778 67 -14.249 67 -13.778 67 -14.829 67 -13.851 67 -17.308 69 -17.331 69 -18.409 61 -18.234 61 -18.234 61 -18.234 61 -18.234	24.417 23.419 25.236 25.068 26.284 25.837 27.279 23.7662 22.3666 22.3666 22.3666 22.3666 22.3666 20.558 21.4661 20.558 21.001 20.249 20.249 20.249 19.386 17.799 18.684 19.884 17.7994 19.884 19.884 19.884 17.984 20.944 2	1.00 33.68 1.00 34.49 1.00 35.59 1.00 36.60 1.00 37.79 1.00 37.10 1.00 39.41 1.00 35.54 1.00 35.54 1.00 36.57 1.00 40.26 1.00 45.75 1.00 48.41 1.00 51.56 1.00 53.59 1.00 32.69 1.00 32.69 1.00 32.04 1.00 33.32 1.00 33.32 1.00 33.32 1.00 33.32 1.00 33.32 1.00 34.45 1.00 34.45 1.00 34.45 1.00 34.45 1.00 38.43 1.00 39.33 1.00 39.33	
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2927 2928 2929 2930 2931 2932 2933 2934 2935 2936 2937 2938 2939 2940 2941 2942	CE1 CD2 CE2 CZ OH C O N CA CB CG CD1 CD2 C	TYR TYR TYR TYR TYR TYR LEU	1202 1202 1202 1202 1202 1202 1203 1203	-10.8 -10.5 -9.4 -9.6 -8.5 -12.8 -12.5 -12.2 -11.2 -10.8 -9.6 -9.3 -8.4 -11.9 -11.2 -13.2	58 -13.579 70 -14.520 46 -14.323 604 -13.851 17 -13.627 725 -16.873 71 -17.308 69 -17.331 95 -18.409 123 -18.641 148 -17.820 156 -18.234 169 -19.686 170 -19.688	17.284 19.874 19.080 17.790 16.994 19.807 18.681 20.922 20.944 22.370 22.877 24.301 21.984 20.428 20.137 20.313	1.00 35.32 1.00 33.61 1.00 34.04 1.00 34.45 1.00 30.13 1.00 29.33 1.00 30.06 1.00 31.23 1.00 29.49 1.00 29.98 1.00 30.87 1.00 29.77 1.00 35.15 1.00 37.00 1.00 38.14	
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	2943 2944 2945 2946 2947 2948 2950 2951 2952 2953 2955 2956 2957 2958 2959	CA CB CCD OE2 C ON CA CCD CCD CCD CCO		1205 1205 1205 1205 1205 1205 1206 1206 1206 1206 1206 1206 1206 1206	-15.2	68 -21.024 46 -22.049 58 -22.268 76 -22.379 40 -22.340 60 -20.896 61 -19.767 615 -19.707 656 -18.415 690 -17.175 659 -15.945 744 -14.717 638 -13.582 649 -19.827	19.847 20.592 21.733 22.326 21.559 23.569 18.349 17.714 17.777 16.342 15.956 15.734 15.496 14.268	1.00 40.88 1.00 41.71 1.00 42.35 1.00 45.00 1.00 47.85 1.00 44.55 1.00 42.03 1.00 44.70 1.00 42.26 1.00 44.68 1.00 45.87 1.00 48.60 1.00 51.09 1.00 51.76 1.00 50.73 1.00 45.15 1.00 45.03	

Fig. 2A-51

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В B B B

B B В

B B B

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В В

ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	299663456678901123 9966234222222222222222222222222222222222	CA CB CG2 CG1 CD1 C O N CA CB CCD NE CZ NH1 NH2 C O OH2 OH2 OH2 OH2 OH2 OH2 OH2 OH2 OH2 O	LILLLEEEGGGGGGGGG33333333333333333333333	$\begin{array}{c} 1207777777888888888888888888888888888888$	-11.135 -10.142 -10.858 -9.578 -10.546 -9.765 -10.9467 -9.9668 -7.088.776 -11.6499 -8.2488 -7.11.6499 -11.5429 -37.2997 -3	-19.983 -20.119 -19.011 -17.668 -19.319 -18.477 -21.505 -22.026 -23.455 -24.896 -25.619 -26.502 -27.113 -26.892 -27.892 -25.123 9.800 11.999 17.954 32.411 22.293 17.100 -7.199 15.347 -1.210 11.821 24.440 9.912 3.080 1.1991 17.057 4.354 -1.210 11.821 24.440 9.912 3.080 1.1991 -2.443 17.057 8.354 -1.210 11.821 24.440 9.912 3.080 1.1991 -2.4437 9.578 23.578 23.578 23.578 23.578 23.578 23.590 10.901	16.161 15.477 15.945 17.326 17.695 17.695 15.731 14.926 17.169 18.627 17.189 19.000 20.161 19.189 17.011 15.984 4.047 3.473 17.5556 19.446 17.5556 19.446 18.881 15.731 16.947 17.5556 19.316 17.5556 17.693 17.123 16.327 17.5556 17.693	1.00 45.64 1.00 46.49 1.00 42.99 1.00 43.35 1.00 40.56 1.00 49.19 1.00 50.69 1.00 55.52 1.00 55.52 1.00 66.79 1.00 67.81 1.00 66.79 1.00 67.81 1.00 67.81 1.00 67.81 1.00 53.91 1.00 53.91 1.00 23.59 1.00 27.65 1.00 27.65 1.00 27.65 1.00 27.65 1.00 27.65 1.00 28.66 1.00 28.45 1.00 28.45 1.00 28.45 1.00 28.66 1.00 28.13 1.00 28.13 1.00 27.51 1.00 27.51
ATOM ATOM ATOM ATOM ATOM	3012 3013 3014 3015 3016	OH2 'OH2 'OH2 '	TIP3 TIP3 TIP3 TIP3	544 545 546 547 548	32.473 35.074 32.326 19.617	0.324 -1.173 -0.577 5.436	-8.592 -5.291 -3.088 -6.168	1.00 39.37 1.00 36.37 1.00 24.33 1.00 45.29 1.00 46.42

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	3017 3018 3019 3020 3021 3022 3023 3024 3025 3026 3027 3028 3030 3031 3032 3033 3034	OH2 TIP3	901235690123456789 555555555555555555555555555555555555	20.033 20.993 -6.648 1.00 39.08 -3.453 1.470 29.166 1.00 46.16 -4.477 5.600 29.363 1.00 34.99 -4.228 8.184 33.673 1.00 45.37 -6.701 7.382 31.744 1.00 15.89 -8.152 -2.024 38.723 1.00 21.23 -13.500 -25.737 34.079 1.00 48.67 -10.134 -25.678 25.889 1.00 48.31 -8.075 -25.536 25.083 1.00 19.62 2.026 -2.806 31.857 1.00 34.40 17.564 -4.763 32.466 1.00 56.19 16.014 -4.510 34.331 1.00 51.79 22.698 -1.920 32.205 1.00 34.66 6.193 0.377 25.948 1.00 30.51 6.755 -7.498 14.265 1.00 26.46 1.159 2.146 26.648 1.00 26.02 3.360 5.021 24.458 1.00 20.23 2.353 9.146 28.496 1.00 46.71
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	3035 3036 3037 3038 3040 3041 3042 3043 3044 3045 3046 3047 3050 3051 3052 3053 3055 3055 3056 3060 3061 3062 3063	OH2 TIP3	572367801234555555555555555555555555555555555555	-1.621 -8.543 11.899 1.00 45.04 -15.832 13.292 36.051 1.00 26.43 36.096 -11.625 0.873 1.00 20.21 20.930 29.693 13.526 1.00 36.88 22.942 32.471 10.116 1.00 37.73 26.535 34.202 11.511 1.00 50.93 26.238 7.756 10.835 1.00 35.53 42.136 22.290 9.682 1.00 46.17 36.988 16.971 14.090 1.00 31.07 28.113 36.253 3.573 1.00 54.01 31.114 17.563 14.487 1.00 23.74 29.930 11.882 22.432 1.00 39.39 28.627 12.210 21.660 1.00 37.51 23.901 8.564 11.019 1.00 31.49 26.166 9.035 14.316 1.00 47.93 13.746 -6.969 11.794 1.00 55.03 17.630 -7.544 12.406 1.00 37.89 20.379 -7.909 11.148 1.00 27.40 9.372 -8.416 13.073 1.00 30.57 6.333 -9.001 12.346 1.00 63.81 5.699 -11.256 12.667 1.00 39.51 24.424 28.208 26.490 1.00 55.07 4.580 4.584 4.718 1.00 43.48 0.937 7.387 3.853 1.00 57.97 2.347 14.978 3.868 1.00 45.22 -0.560 17.052 3.729 1.00 54.60 3.900 0.613 5.622 1.00 33.60 16.846 6.390 12.858 1.00 25.87 10.203 21.845 15.440 1.00 57.58
ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	3064 3065 3066 3067 3068 3070 3071 3072 3073	OH2 TIP3	608 609 610 611 612 613 614 616 618	33.992 4.807 -11.888 1.00 55.76 32.088 4.063 -9.902 1.00 37.25 43.957 6.928 -0.002 1.00 28.91 25.495 -6.170 1.847 1.00 53.33 32.114 -3.720 -5.524 1.00 48.53 31.027 -6.231 -3.996 1.00 23.87 28.507 -3.477 -8.300 1.00 44.33 31.457 -3.669 -10.371 1.00 29.92 19.484 0.314 -4.176 1.00 52.01 21.084 11.361 -7.754 1.00 32.35

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ATOM	3074	OH2 TIP3	624	29.179	16.414	-8.147	1.00 23.12
ATOM	3075	OH2 TIP3	625	28.217	18.152	-11.615	1.00 24.45
ATOM	3076	OH2 TIP3	626	-2.622	11.332	34.963	1.00 43.49
ATOM ATOM	3077 3078	OH2 TIP3 OH2 TIP3	628 629	1.007 1.744	9.633 7.361	37.642 39.889	1.00 37.19 1.00 61.00
ATOM	3079	OH2 TIP3	630	-9.712	0.515	37.881	1.00 31.55
ATOM	3080	OH2 TIP3	631	-10.217	-1.307	39.597	1.00 26.46
MOTA	3081	OH2 TIP3	632	-4.602	0.555	35.049	1.00 46.29
ATOM	3082	OH2 TIP3	633	0.406 4.937	-24.863 -5.021	30.031 23.436	1.00 49.55
ATOM ATOM	3083 3084	OH2 TIP3 OH2 TIP3	634 635	14.511	-7.526	33.274	1.00 21.54 1.00 42.67
ATOM	3085	OH2 TIP3	636	17.764	-3.257	23.832	1.00 30.58
MOTA	3086	OH2 TIP3	637	10.575	-1.130	33.912	1.00 48.46
ATOM ATOM	3087 3088	OH2 TIP3 OH2 TIP3	638 639	5.491 15.500	-0.955 15.224	33.749 27.892	1.00 49.13 1.00 41.51
ATOM	3089	OH2 TIP3	641	9.121	11.477	29.216	1.00 41.51
ATOM	3090	OH2 TIP3	642	18.087	-7.427	21.130	1.00 44.59
ATOM	3091	OH2 TIP3	643	13.139	-9.763	14.592	1.00 39.50
ATOM ATOM	3092 3093	OH2 TIP3 OH2 TIP3	644 645	8.471 8.918	-15.955 -19.436	24.889 19.269	1.00 29.03 1.00 58.43
ATOM	3093	OH2 TIP3	646		-22.468	17.407	1.00 38.43
ATOM	3095	OH2 TIP3	647	2.242	-22.822	16.942	1.00 37.73
ATOM	3096	OH2 TIP3	648	4.341	-22.047	14.464	1.00 48.23
ATOM ATOM	3097 3098	OH2 TIP3 OH2 TIP3	649 650		-19.447 -25.194	13.642 20.926	1.00 33.18 1.00 51.00
ATOM	3099	OH2 TIP3	651	-1.696	19.824	23.109	1.00 58.49
MOTA	3100	OH2 TIP3	653	1.940	14.682	9.762	1.00 18.10
ATOM ATOM	3101 3102	OH2 TIP3 OH2 TIP3	655 656	6.226 6.059	4.362 -1.930	10.276 9.076	1.00 38.36 1.00 26.19
ATOM	3102	OH2 TIP3	657	-1.695	-11.127	14.091	1.00 20.19
ATOM	3104	OH2 TIP3	659	-0.293	-13.734	8.678	1.00 37.60
ATOM	3105	OH2 TIP3	661	-16.640	6.818	28.144	1.00 25.26
ATOM ATOM	3106 3107	OH2 TIP3 OH2 TIP3	662 664	-17.931 -17.949	9.011 13.378	30.213 32.218	1.00 47.61 1.00 36.07
ATOM	3108	OH2 TIP3	665	-7.012	2.947	44.264	1.00 30.07
ATOM	3109	OH2 TIP3	666	-8.590	20.473	43.414	1.00 42.81
MOTA	3110	OH2 TIP3	667	-11.271	24.339	41.537	1.00 53.87
ATOM ATOM	3111 3112	OH2 TIP3 OH2 TIP3	668 669	-11.938 -6.115	26.641 22.520	38.313 38.617	1.00 40.91 1.00 49.06
ATOM	3113	OH2 TIP3	670	-5.432	22.073	41.400	1.00 33.81
MOTA	3114	OH2 TIP3	671	-5.894	24.658	41.524	1.00 48.57
MOTA MOTA	3115 3116	OH2 TIP3 OH2 TIP3	672 675	-5.968 -10.916	27.317	39.288 28.973	1.00 62.04 1.00 19.60
ATOM	3117	OH2 TIP3	676	-12.687	17.611	29.928	1.00 19.00
ATOM	3118	OH2 TIP3	677	-12.376	14.997	26.011	1.00 25.27
ATOM	3119	OH2 TIP3	678	-15.982	11.048 -12.373	22.910	1.00 36.08
ATOM ATOM	3120 3121	OH2 TIP3 OH2 TIP3	679 680	-15.130 -24.525	-2.963	21.294 29.740	1.00 31.35 1.00 53.82
ATOM	3122	OH2 TIP3	681	-24.281	-7.362	32.226	1.00 46.22
ATOM	3123	OH2 TIP3	682	-25.785	-7.204	29.606	1.00 40.17
ATOM ATOM	3124 3125	OH2 TIP3 OH2 TIP3	683 701	-16.683 12.857	-3.185 31.019	41.795 7.364	1.00 24.03 1.00 54.16
ATOM	3126	OH2 TIP3	702	37.640	5.709	5.316	1.00 52.52
MOTA	3127	OH2 TIP3	705	19.919	-7.084	13.950	1.00 54.40
ATOM ATOM	3128 3129	OH2 TIP3 OH2 TIP3	706 707	22.605 24.320	19.970 21.898	26.417 25.471	1.00 47.37 1.00 55.75
ATOM	3130	OH2 TIP3	707	21.853	18.372	29.036	1.00 35.73

Fig. 2A-54

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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ATOM ATOM ATOM ATOM ATOM ATOM ATOM ATOM	3131 3132 3133 3134 3135 3136 3137 3138 3139 3140 3141 3142 3143 3144 3145 3146 3147	OH2 TIP3	709 711 712 713 714 715 716 717 718 719 720 721 722 724 726 727 728	21.985 8.853 6.511 4.281 5.434 16.706 36.108 30.590 32.446 21.678 -2.226 -2.874 -5.200 -2.287 -7.714 -9.403 18.346	-14.571 9.600 3.837 -12.404	11.183 9.847 13.278 16.814 13.014 3.770 -10.727 3.586 -7.693 26.350 13.193 13.421 36.735 39.477 40.890 43.798 31.321	1.00 25.61 1.00 21.94 1.00 56.32 1.00 30.19 1.00 24.50 1.00 42.30 1.00 56.35 1.00 26.39 1.00 26.41 1.00 17.13 1.00 61.49 1.00 51.98 1.00 30.95 1.00 36.32 1.00 26.19 1.00 58.25 1.00 29.06
MOTA					3.837		1.00 36.32
ATOM ATOM	3147 3148	OH2 TIP3 OH2 TIP3	728 729	18.346 15.929	2.718 11.925	31.321 36.890	1.00 29.06 1.00 20.48
ATOM	3149	OH2 TIP3	731	11.736	-21.743	17.819	1.00 56.65
ATOM ATOM	3150 3151	OH2 TIP3 OH2 TIP3	732 734	12.835 13.864	-19.407 -21.140	17.439 15.303	1.00 47.51 1.00 36.90
ATOM	3152	OH2 TIP3	737	-16.126	19.138	31.099	1.00 50.05
END							

Fig. 2A-55

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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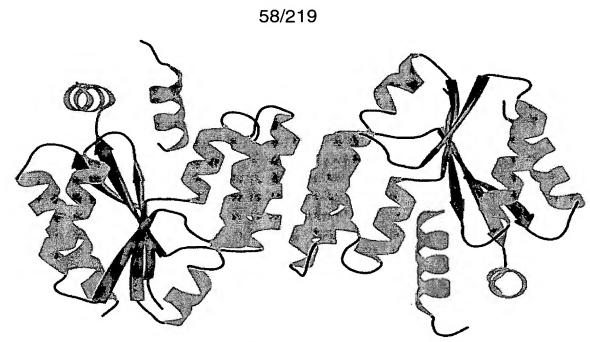
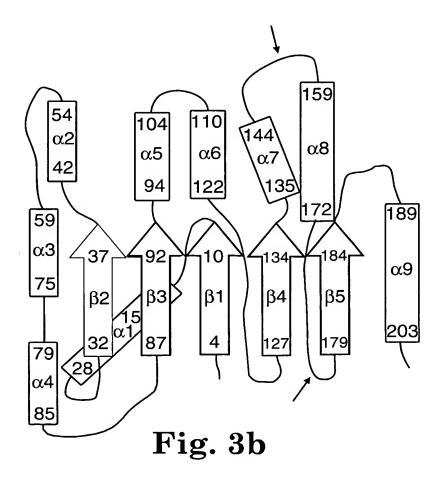


Fig. 3a



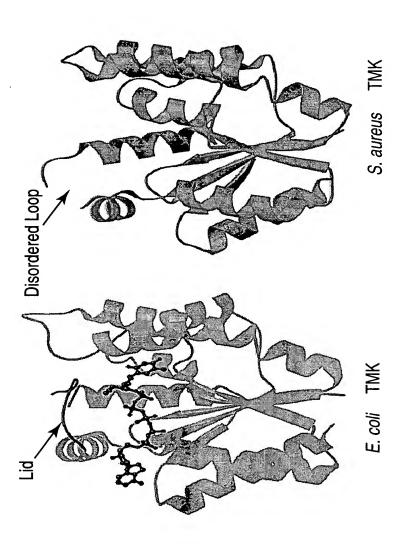
Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

Docket: 6245.N DV1

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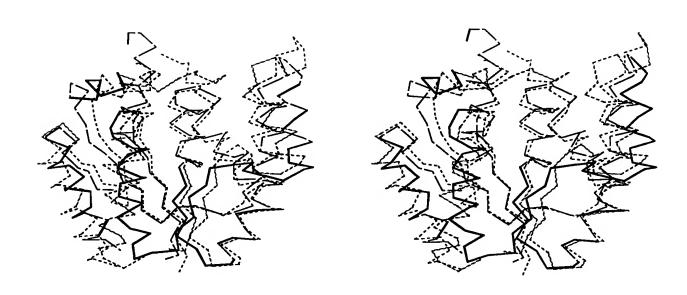


Fig. 5a

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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SEQ	ID	NO:2	1	$\verb mrsky ivieglegagkttar nvvvetleqlgirdmvftrepggtqlaekl $	50
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		5	1	${\tt rslvldiksvgdevitdkaevlmfyaarvqlvetvikpalangtwvigdr}$	100
		9	4	YIDSSLAYQGYARGIGVEEVRALNEFAINGLYPDLTIYLNVSAEVGRERI	143
		10	1	hdlst qay qgg gr gid qhmlatlr davlgd fr pdltlyldv tpev glkr.	149
		14	4	IKNSRDQNRLDQEDLKFHEKVIEGYQEIIHNESQRFKSVNADQPLENVVE	193
		15	0	arargel drie qesfdffnrtrarylela. aqdk sihtidat qpleavmd	198
		19	4	DTYQTIIKYLEKIRSHHHHHH 214	
				: :: .	
		19	9	airttythwykelda 213	

Fig. 5b

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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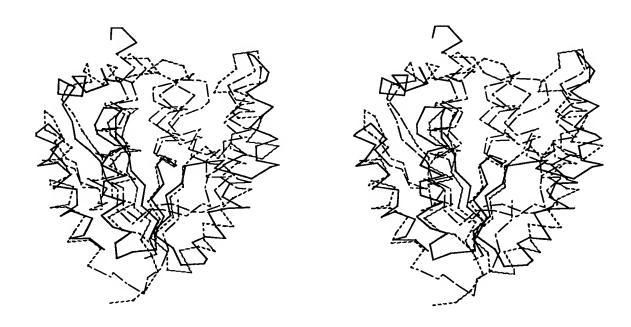


Fig. 6a

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

Express Mail No.: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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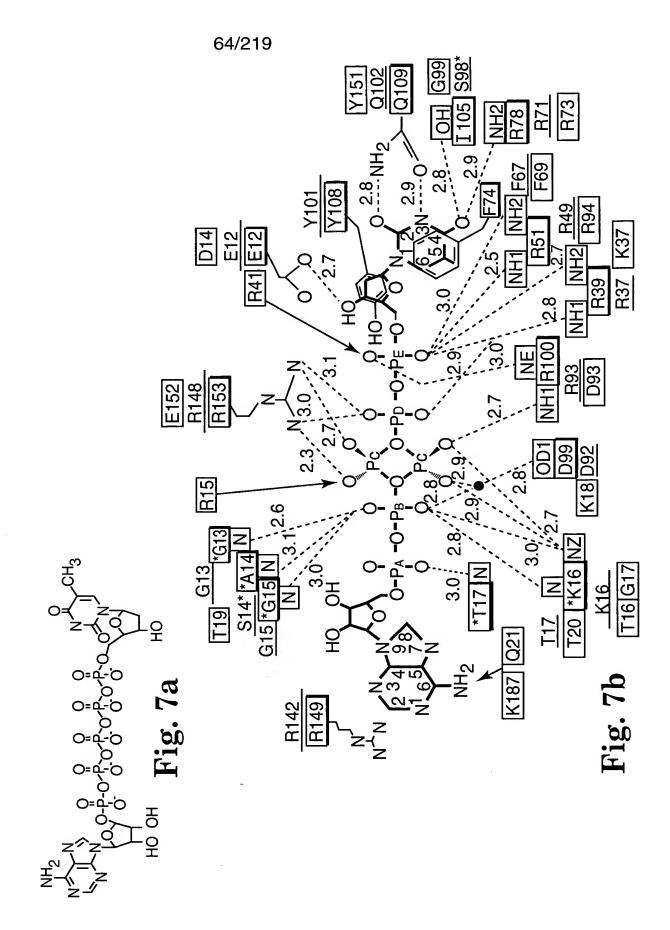
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SEQ	ID	NO:3	1	$\verb mmgrgklil iegldrtg kttqcnilykklqpnckllkfperstrigglin $	50
		4	19	RKIVLEGNDMDIRTEAMLFAASRREHLVLKVIPALKEGKVVLCDRYIDSS	98
		5	51	eyltddsfqlsdqaihllfsanrwe.ivdkikkdllegknivmdryvysg	99
			20		1 4 0
		3	ככ	LAYQGYARGIGVEEVRALNEFAINGLYPDLTIYLNVSAEVGRERIIKNSR .	148
		1 (ነስ	vaysa.akqtnqmdldwclqpdvqllkpdltlfls.tqdvdnnaeksqfq	147
		Τ.	, ,	vayba.angengmarawerqpavgrinparerrib.eqavannaensgrg	11/
		14	19	DQNRLDQEDLKFHEKVIEGYQEIIHNESQR.FKSVNADQPLENVVEDTYQ	197
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		14	18	deryetvkfqekvkqtfmklldkeirkgdesitivdvtnkgiqevea	194
				,	
		19	98	TIIKYLEKIRSHHHHHH 214	
		10	35	liwaiyenylsthidhdkfsff 216	

Fig. 6b

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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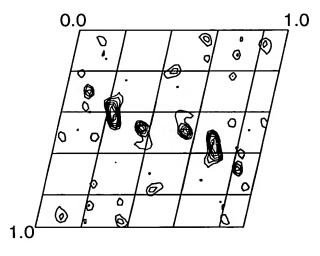


Fig. 8a

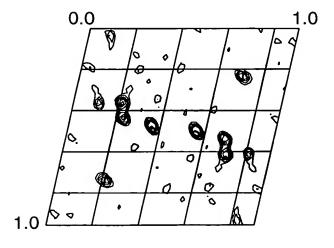


Fig. 8b

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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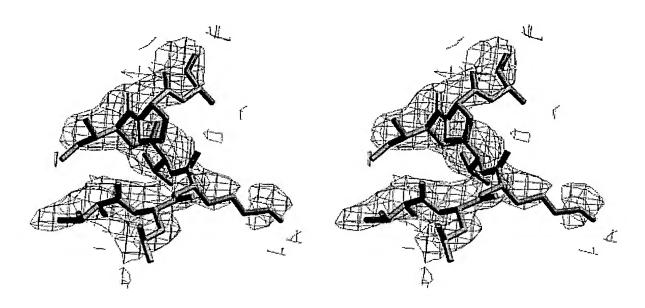


Fig. 9a

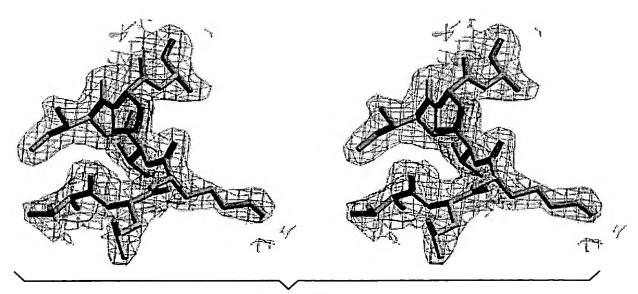


Fig. 9b

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

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Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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1

NDE

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE **Applicant(s)**: Timothy E. Benson **Serial No.**: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) **Docket:** 6245.N DV1

Express Mail N .: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Fig. 10A-4

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Express Mail N .: EV 073687660 US

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INDE INDE INDE	-14	13 13 13)6 7 8	FOBS= FOBS= FOBS=	117.6 129.7 61.6	SIGMA= SIGMA= SIGMA=	4.6 3.7 6.7	PHAS= PHAS= PHAS=	6 1 30 30	7.7	FOM= FOM= FOM=	0.15 0.05 0.11
INDE INDE INDE INDE INDE	-14 -14 -14 -14	13 13 13	10 11 1	FOBS= FOBS= FOBS=	49.8 68.0 95.7 103.7	SIGMA= SIGMA= SIGMA= SIGMA= SIGMA=	8.5 5.1 6.1 94.8	PHAS= PHAS= PHAS= PHAS=	203 203 230	3.85 3.85	FOM= FOM= FOM=	0.05 0.19 0.62 0.11
INDE INDE INDE INDE	-14 -14 -14 -14 -14 -14 -14 -14 -14	14 14 14	2 3 4	FOBS= FOBS= FOBS= FOBS=	109.6 94.3 108.2	SIGMA= SIGMA= SIGMA= SIGMA=	5.7 6.1 5.1	PHAS= PHAS= PHAS=	129 159 199	6.3 3.1 1.1	FOM= FOM= FOM= FOM=	0.26
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INDE INDE INDE INDE	-14 -14 -14 -14 -14 -14 -14 -14 -14	15 15 15	3456	FOBS= FOBS= FOBS=	49.4 187.6 79.8	SIGMA= SIGMA= SIGMA= SIGMA= SIGMA=	29.1	PHAS= PHAS= PHAS=	165 355 74	2935	FOM= FOM= FOM= FOM=	0.15 0.85 0.26
INDE INDE INDE INDE INDE	-14 -14 -14	15515	789	FOBS= FOBS=	122.5 172.4 150.2	SIGMA= SIGMA= SIGMA=	3.697	PHAS= PHAS= PHAS=	35 21 27	7.4 1.8 4.1	FOM= FOM=	0.91 0.95 0.64
INDE INDE INDE INDE	-14 -14 -14 -14	16 16 16	10 2 3	FOBS= FOBS= FOBS=	126.9 81.3 38.4	SIGMA= SIGMA= SIGMA= SIGMA= SIGMA=	3.0 4.9 8.2 16.2	PHAS = PH	196 44 294	4.1 4.3 4.5	FOM= FOM= FOM= FOM=	0.45 0.59 0.12 0.01
INDE	-14 -14 -14 -14 -14	16 16 16	4 5 6 7	FOBS= FOBS= FOBS=	99.9 81.9 156.0	SIGMA= SIGMA= SIGMA= SIGMA=	5.2 6.1 2.6	PHAS= PHAS= PHAS= PHAS=	234 119 288	4.0 9.7 8.8 9.7	FOM= FOM= FOM=	0.11 0.43 0.91 0.43
INDE INDE INDE INDE	-14 -14 -14 -14 -14 -14 -14 -14	16 16 17	8 9 1	FOBS= FOBS= FOBS=	51.9 89.8 51.2	SIGMA= SIGMA= SIGMA= SIGMA=	8.3 3.9 1 <u>1</u> .8	PHAS= PHAS= PHAS=	238 64 129	8.7 4.9 0.3	FOM= FOM= FOM= FOM=	0.19 0.49 0.49
INDE INDE	-14 -14 -14 -14	17 17 17	43. 45.	FOBS= FOBS=	103.3 64.0 79.3 48.7	SIGMA= SIGMA= SIGMA=	10.5	PHAS= PHAS=	182 16 240	2.8	FOM= FOM= FOM=	0.46 0.24 0.05
INDE INDE INDE INDE	_1/	1 / 1 7 1 7 1 7	67 8 9	FOBS= FOBS= FOBS=	160.1 136.5 75.2	SIGMA= SIGMA= SIGMA= SIGMA=	8.0 2.5 4.5 34.9	PHAS= PHAS= PHAS= PHAS= PHAS= PHAS= PHAS=	14 14 26 42	7.8 4.1 1.3 2.8	FOM= FOM= FOM=	0.03 0.77 0.81 0.01
INDE INDE INDE	$ \begin{array}{r} -14 \\ -14 \\ -14 \\ -14 \end{array} $	18 18 18	123	FOBS= FOBS= FOBS= FOBS=	86.8 106.0 77.1	SIGMA= SIGMA= SIGMA= SIGMA=	65.26	PHAS= PHAS= PHAS= PHAS=	25 168 220	1.8 3.3 3.2	FOM= FOM=	0.19 0.35 0.19
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INDE INDE INDE INDE	-14 -14 -14 -14	199 199 199	8 1 2 3	FOBS= FOBS= FOBS= FOBS=	148.5 53.2 79.7	SIGMA= SIGMA= SIGMA= SIGMA=	98.5 10.4 7.0	PHAS= PHASS= PHASS= PHASS= PHASS= PHASS= PHASS=	21°	9.4	FOM= FOM= FOM=	0.05 0.04 0.49
INDE INDE INDE INDE	-14 -14 -14 -14 -14 -14 -14 -14 -14	19 19 19	4 5 6 7	FOBS= FOBS=	68.1 35.0 85.5 109.3	SIGMA= SIGMA= SIGMA= SIGMA=	7.3 14.9 4.2 3.0	PHAS= PHAS= PHAS= PHAS=	109 34 312 12	9.1 7.0 2.1 2.6	FOM= FOM= FOM= FOM=	0.25 0.08 0.85 0.82
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INDE -13	44445	10 FOBS=	207.2 SIGMA=	2.4 PHAS=	287.6 FOM=	0.73
INDE -13		11 FOBS=	251.3 SIGMA=	1.8 PHAS=	265.8 FOM=	0.95
INDE -13		12 FOBS=	243.4 SIGMA=	1.7 PHAS=	44.3 FOM=	0.41
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Fig. 10A-10

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901231233456789012123456789012134567
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4607701407862856097773239946474181575802185563869682072238895809402109134 33274673196927645021054650082500541333185327983596807687156789038818707 98172149352547375340280634675617675511416115452453665649020816440460769 1 1 111 1 1 1121 12311 121 111 1 21 21 11121 1
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49801-10987-94507-8005-40905-6000844-05459005-0500-0500-050-0650-0650-0650-0650-
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755052049735338841969438303120452081989528895316308954921667929703674620 87676057486945467424870035804854292100976109193409091511986291305897257 16234668636624314 55318779012614661259504509 3422592958865102919258942588 1121 123 311 1 2 2121 213231 21112 233111 2312211 12 2 13 11 2 2 2
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2420504278336594065023565246888966059388044556102650209155897763565214037 948956621031898941249322599403116368546293110224633357910411697861332443 000000000000000000000000000000000

Fig. 10A-11

Express Mail N .: EV 073687660 US

Flied: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Image: Control of the con
666677777777778888888888899999999999900000001111111111
=
41476800073175450014713088708499998004749890045155542580862627758317863646 414768000731754500147130887084999980047498900451555425808626277583117863646 849292445535088358224556642309923159891045686631490348387853654972170389209252 4443855571840910644334354363782766614333445995051044599958665502866810462602 1 1 11 1 2 1 1 1 2 1 1 1 1 1 2 1 1 1 1
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25015762013710750721028783739433 25015762013710750721028783739433 212 5 2 9 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
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6428040116764466784605386623334006846141835555769642902381000000000000000085846431515151206080342232435049975022170566055448777063981000000000000000000000000000000000000
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3268251153732065653091094292802063254920489136738131825034965720546486310011318824413083139032013570910909918124189201302051007049991109272067

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31454880169789443881696475135943576153088237733355735113242794014189103892262207196815493995941488852040196515172743362435631759557026084509721212121312 2 2232 12 32 3 1 312 1 3 323 3 23113 1312 23131211
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104432151713736237772027438028645007239748784802051442568945500605012149 19999949739849962984959972239232502978832878964895975814991909854004891

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11111111111111111111111111111111111111
66666666667777777777777777777777777777
78901234123456789012341234567890123412345678901234123412345678901234234 11111
50062613731072015160890652993384533605448792128163793866031873152222850 75246739546075908671070105708065035946320382449901151339971120272222205613 156278988167045320360982443584584912118323339351242534227650457033037971 11 11 131 21111 12 3 1 21 32113111111 2 221 22 33 1 1
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5220670114744208796111124212867710479790008555557712719654044899973570961 137115424745553847126222751425381147371723471737072347172719654044899973570961 137115424747455384712622275142538114737172347173707327672227882421442288274 11
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1 21 21121 1312313132 22 1 21 11 212 22 2 3 221 31122 2 21 2331 1
328293551928498016880829215604399661494315099161884470126888394616085150
======================================
675728839358015787035003346201120952834839175719462630595028709696416966 9887876827711470160710097111596210278198272878657368231985285900951851522 0000000000000000000100110000000000

Fig. 10A-14

Express Mail N .: EV 073687660 US

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= = = = = = = = = = = = = = = = = = =
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984384407308833002136046574076675966819499787773297448234560891769008787 109597873788886887989460376825297107691844263636348899917432006605324120323

Fig. 10A-15

Express Mall No.: EV 073687660 US

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-11-11-11-11-11-11-11-11-11-11-11-11-11
7777777778888888888888999999999999000000111111111
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478800310052629762251775324008687007279362818049020260511174971062429450 28119705861199340411148713197395000082125681141481725109202101107100021 000000000000000000000000

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456789001203456789001203456789001203456789012034567890012034 1111111 1111111 1111111
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078442818374566059340409071508200499117707924806561664223293811812301243 19448593607626661737200214861611807704754759993548324343773558266412122605 6886615435484948500780035128147777670485618570324156894906355585265170051 13 5 111 1 2 212221 1112321412 1 11322122 2 2 11113 5 311111
= = = = = = = = = = = = = = = = = = =
2065788805998819724340238709388195973977451823870290627007664357143631863 4299100033436220425524112454331112217536875312222141427333318169124324
= = = = = = = = = = = = = = = = = = =
00000000000774642882183430430406777110638461886056961194589924783675442 00000000000063293278471838858654561378113758382656431453254171271094227 8 8 88 8 85939006263868006729207671813320031288701 296066214741354429 1 1 11 1 3112131 231 3 211 12 22 2131231222 22122213321 1 222
= = = = = = = = = = = = = = = = = = =
82080010462412730317082081916679719567842177960059421909933749023859000 032001134860519289018870982819978871901714278909999906191412291032957856 0000100000000000000000001000000000000

Fig. 10A-17

Express Mall N .: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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11111111111111111111111111111111111111	8 8 8 1 8 1 8 1		= = = = = = = = = = = = = = = = = = =	= = = = = = = = = = = = = = = = = = =	======================================	26633894550744525294810057641105587551516070556940277407978765670323814 526981899405331778898299949676109859798958776255805899888885739811698889 0000000000100000000000000000000000
INDE -11	9	6 FOBS=	80.7 SIGMA=	5.1 PHAS=	297.9 FOM=	0.63
INDE -11	9	7 FOBS=	194.2 SIGMA=	2.3 PHAS=	334.8 FOM=	0.92
INDE -11	9	8 FOBS=	172.0 SIGMA=	2.4 PHAS=	282.4 FOM=	0.83
INDE -11	9	9 FOBS=	136.8 SIGMA=	3.2 PHAS=	165.6 FOM=	0.88
INDE -11	9	0 FOBS=	68.4 SIGMA=	5.3 PHAS=	42.0 FOM=	0.81
INDE -11	1	1 FOBS=	168.0 SIGMA=	2.4 PHAS=	184.5 FOM=	0.94

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11111111111111111111111111111111111111
1
= = = = = = = = = =
8175857507106941252591755766405246469576265820988676925887914174325601 950258705173001627927169188220219078807883725613194240193262386804730 8656061389198076673969534037669706419569488556618770895557648530881632897 211 1 232 12 12 1 121 112111 1123222 21131 111 11
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57014566769667773347072296054215306507006700617799067989023486352847207499 1231672114314317506922339331222256322122312231236723118222222222312
= = = = = = = = = = = = = = = = = = =
78425103095901279462782167567256447615576754691034454263389701176559807 8981014635526166534418824317973047002428384191788815159045146276455874584 79576336157835421924887914339232584374747812154038619902068835242121768883 21 13 132 12121 133122121 11 1 2 1131 1 21332 2 2 112312132312 22
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960383889644800057097361229061646211580751736314784877584021670049853564

Express Mail N .: EV 073687660 US

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HILLIHITHITHITHITHITHITHITHITHITHITHITHITHIT
55555555555556666666666666677777777777
234567890123123456789012123456789012223456789011234567 1111 111
212 11 1 1 2212 211 2 1211 1 1121 1112 1 2211 1 11 1
599888755751278834447777351334440743582053960983008746474611365952389793875 1176871692818706258721800894670500880724460591603631239057928575598652433 4780577759299764019513786341206969394458278610288596372747114965544164046
= = = = = = = = = = = = = = = = = = =
24979518798972725788790514573759022371180189153854898142893712144419479239 97522107542328224224224222488768242454068826753225955555557384294728 1 1 1 2
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1 31 21 2 2 32 131232 2 1 12 2132 2 1 222121 3 331
15470661816428628972726228962239422192384630824198951198410548849024505 15470661816428628972726228962239422192384630824198951198410548849024505 154706618164286289727262289622394221923846308241989511198410548849024505 154706618164286289727262289622394221923846308241989511198410548849024505 154706618164286289727262289622896229784505
= = = = = = = = = = = = = = = = = = =
555022320246220853471650687828154255294918924413468411575032706246766345 11688932278995791486101938384871163172765222012074978625685010638820012

Fig. 10A-20

Express Mall N .: EV 073687660 US

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11111111111111111111111111111111111111
11111111111102222222222222222222222222
745678901274567891274567812745671274561274567890127456789012745 1
= = = = = = = = = =
257735050368409974804356952070805630843207805823420535758700272650624073 542274488655338419527277003414493393508525212111913959902259969287429922 48839843530502551617997255843494942064782549210042934198963646363296988452 111 13 11121 13 1 1 1 1 121 1 1 1 111231 1 2 12113 1 1 1 1
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594746000000590460070770490477900017051006559060100000001044407791007469099409 1200000000110000000000000000000000000
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526717862452359587240843914029449946906119000000000000005159373272028 7195721559071245931385657129309913417973148 8888 88895062353824860 21 313 1 21 31 1 323212 123 11 2 13 12 131 111 11
4351131400561053638074006626507878671705200000000000000726134515
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74486469332647602365744012294029951997502336934230058767795533729689342 15987561769963231232388152250964871711195610211060005434912992986565488 00000000000000000000000000000000000

Fig. 10A-21

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Fig. 10A-22

Express Mail N .: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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00000000000000000000000000000000000000
666667777777777777778888888888888888889999999
= = = = = = = = = = = = = = = = = = =
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7842683596701342415849898894096416751942877833382514691431324486018225718989272837695999080277289988940964167519428778333825146914313244860182257

Fig. 10A-23

Express Mall N .: EV 073687660 US

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00000000000000000000000000000000000000
11111111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
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IGMA====================================
= = = = = = = = = = = = = = = = = = =
18705501682073519624662560471850612480890102728148699960907731580528126 187055016820735196246625604718506124808901027281486999960907731580528126 7265397939233916833268967559216978323880243098500017545592185995444580781 83995523466113816828077172 5218 13995523466113816828077172 13123132211 122 331213221213 3413 132 133 134 135 137 137 137 137 137 137 137
======================================
0579906797461478919097422767384278220898273244200051725098000235906169 098897967640967899679356965989949903896795012913214089999858456889697292 100000000001000000000000000000000000

Fig. 10A-24

Express Mail N .: EV 073687660 US

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00000000000000000000000000000000000000
111111111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
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6442274578921767757026824032666513698456245251803282790046906535861094716571838765012395009000000000000000000000000000000000

Fig. 10A-25

Express Mall No.: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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000000000000000000000000000000000000000
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=
390825184709816081792473369751410629311739412871465618872624839165 0606066571037779023694277105322774099521793247939519410955908792198 6549832757531040350341034472894407522179938612742394735397052998752316 21 111 111111 11 11111 1 11111 1 1111 1 1
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3557154176291571073673383721116072966924600000000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
9215872787699064352130998046125484405142222842018000078863942995867755 89940738390138459421174826831211089029279119912069000055018794021992988 000000000000000000000000000000000

Express Mail No.: EV 073687660 US

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HIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
112222222222222222222222222222222222222
00000000000000000000000000000000000000
13511521731647317078189418783349935431035512119619082232102658987048890 865355313270701314473704986641181808073286051643942386973144039693483885 777033443540372398031130240038795181808065624961884985700760886589161185281 2122223322312111123332146422 311231211212121224 321 1 211332 311213122421
= = = = = = = = = = = = = = = = = = =
90979778468400525506584122652749524487587452049280927325463322156540354
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902193419417834331967775813123121080992250099611909642083679955889929284 89951097888601111559031113967210416762710681652212523 22652548852193381203 13131212 113 22122 2332113321 2 221 11 212 113 2 1 132132213321313
= = = = = = = = = = = = = = = = = = =
09724078507206272646160000473576107466098772901531334916972918781484122 419990299089699887299999000992678987899597996397569188839984996749299998

Express Mali No.: EV 073687660 US

D cket: 6245.N DV1 Sheet 95 of 219

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66666666666677777777777777777777777777	= = = = = = = = = = = = = = = = = = =	426.7 SIGMA====================================	= = = = = = = = = = = = = = = = = = =	======================================	856604972888275180870206771158682415607473200515478397088061375329809876993853698307991839221970999989979985097417079659965088111149929998209698

Fig. 10A-28

Express Mail No.: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
99999999999999999999999999999999999999
11111111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
9595667692705502497400783905846029876032386961085377399068894854005697546 6182688102078187982106485678170508881316399158276422712999482555245778035824 06554386972688324611146905149541650565111172970879844609734756339956214225789 1 23412321 111321221212121222421 2 11151 22 1 32 1133 5431311
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18022102854166585489042006540386958041515479067654016534191385585703343 1.8022102854166585489042006540386958041515479067654016534191385585703343 1.8022102854166585489042006540386958041515479067654016534191385585703343 1.8022102854166585489042006540386958041515479067654016534191385585703343 1.8022102854166585489042006540386958041515479067654016534191385585703343 1.80221028541665854890042006540386958041515479067654016534191385585703343 1.802210285541665854890042006540386958041515479067654016534191291230186491166 1.8022102855416659355272495599000487887103883930643658710355268400106772663968091966 1.80221333 11113 22 31222222121 131221 13 21 121333 2313 1312 1 2 3121222 122 1.80221333 11113 22 312222222121 1312221 13 21 121333 2313 1312 1 2 3121222 122
======================================
39979647361036054459056699430737168718056177460595965257080751074185655 323999938724186999980996774888894989972980847961962418924980949498449647 000000000000000000000000000000000000

Express Mail No.: EV 073687660 US

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HIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
111111111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
9268867126923344306925072324372623030896153664773334287138760342387820121781 2388413901633051270870404758961339631232470165369887495932496317408320356 976171843211032596602561332789869047615822150323042426357572817162787060 132222112111132 321232121112112 1 111111121112
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SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS
= = = = = = = = = = = = = = = = = = =
0478741779183957480537926795484316922953942967055109587978293138430364546679872326577198705664499368235201715696498646147263920639795790822714

Fig. 10A-30

Express Mall No.: EV 073687660 US

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EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
11112000000000000000000000000000000000
\$\\\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$
4978733388695397784557777488840022226651282886603859359784656002620102140335 784893113809205785495063311568808466713343169121278884590440022753355291057522582 2554665766656794374233883577036391455398905060334561735045054613309453015222582 1 12 2 2222 11 1 12 23 1 2 2131 211 1 1 113 121 2
======================================
12683564995555540059547040091272669377778057713818821358384984916921866692 50813672189262221326441333244112526427122472224223485925144536282942352 1 1 1 1
= = = = = = = = = = = = = = = = = = =
741025816409141154692875015261986265903298237356360000632016884700000000000000000000000000000000000
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264626765947484294487440891385614229927780119709306410608863309424858053 52077329955756992261721992832894382713990326495791047187942021419329081 00000000000000000000000000000000000

Express Mail No.: EV 073687660 US

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HILLHHILLHHILLHHILLHHILLHHILLHHILLHHIL
-1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 + 1 +
000000001111111111111111111111111111111
89012345612345678901234561234567890123456789012345678901234 11111111 1111111 11111111
29075253175169478458099274744754135853049631390034154967114424298672019445254590856288851261287075111874538502773747337354425459671144242986720191113 3 2 221 3 2211222 1 1111121112321111 112211126111 1 231 32212211
91757493332099191097322040988933233414729783880998412
A= AA= AA= AA= AA= AA= AA= AA= AA= AA=
1233935213411122144
= = = = = = = = = = = = = = = = = = =
180 180 180 180
0000000
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990212041448883337101859817016778918343144254465795805103507599734925033

Express Mail No.: EV 073687660 US

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EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
44555555555555555555666666666666666666777777
1 1111111 11111111 11111111 11111111
= = = = = = = = = = = = = = = = = = =
47724649650451117856624199053447174851371096072521945581963661499179238855 447718813929889982779068225695142585966822222707978138668644748588131494 447718881379298898277906837235695142585966822222707978138668644748588131494 1123111411212242 121 12222313 3112211 111 22321218 111 1221241 1 1311114
SIGMA= SI
3112213112111444245311111214133242553113111222323262112112442441322
= = = = = = = = = = = = = = = = = = =
1 12212 12 21 2 22 2 3 21 13 21133 21 2 23 2 12212 3 3212 11 2111 113
8362846921117370807534343605195046457400404968358768524445020514942008230 59221597309183103865056677743614789888285968391200020921136411994723232 7588166383663936016470451 7952214113553414157888796095084372799 65965840
= = = = = = = = = = = = = = = = = = =
4708669223338081405703455940044404719130610384420075564374445893815309598 41090984898903767879999399202719829882099095993271779295695982440107994 001100000000010000000000000000000000

Fig. 10A-33

Express Mall N .: EV 073687660 US

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HIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
999999999000000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
SIGMA= 135.0 SSIGMA= 135.1 SSIGMA= 135.1 SSIGMA= 135.2 SSIGMA= 1366.3 SSIGMA= 1366.3 SSIGMA= 1374.1 SSIGMA= 1366.8 SSIGMA= 1366.1 SSIGMA= 136
PHAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
117729126048977823877543233372740221669832540221866554224705472052222525274449775547024534986562602466112232152774403077433377318669713330767174318752311212211112211232112323112112211123123
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Fig. 10A-36

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Fig. 10A-37

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Fig. 10A-39

Express Mail No.: EV 073687660 US

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Fig. 10A-40

Express Mail No.: EV 073687660 US

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Fig. 10A-41

Express Mall N .: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Fig. 10A-42

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOGOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

Docket: 6245.N DV1

Express Mail N .: EV 073687660 US

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681747879599994651435756810462652628732762491473949355638149741972192481 998899898721091158897999942710996997973794781791589499355638149741972192481

Fig. 10A-44

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

Express Mall No.: EV 073687660 US

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

Express Mail N .: EV 073687660 US

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875878930753913911399849462809491466969240900770755363492232465878811182998839999963218899999999993798946

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE **Applicant(s)**: Timothy E. Benson **Serial N** .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1 Express Mail No.: EV 073687660 US Sheet 116 of 219

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Fig. 10A-49

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

Docket: 6245.N DV1 Express Mail N .: EV 073687660 US

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Fig. 10A-50

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Express Mail N .: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Fig. 10A-52

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1

Express Mall No.: EV 073687660 US

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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Fig. 10A-54

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

Docket: 6245.N DV1

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Express Mall N .: EV 073687660 US

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Express Mall No.: EV 073687660 US

Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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D cket: 6245.N DV1

Express Mall No.: EV 073687660 US

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Titie: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
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Filed: Herewith (Parent: Aug. 4, 2000)

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Fig. 10A-68

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553)

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Fig. 10A-70

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial No.: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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9023888162925289925796559391467738995133335176053553367741699848902552772458
26802693200406580147897421685212069372090734384676403689807492275841835403 09999999998591852899999979897621398897708638314889906798551030919399711560 0000000000000000000000000000000000

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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990000000000011111111111111000000000000
3021834803797367644442607705673367657127660742503308720003217812222634333386771359717448682507400067832271488431542602113581555403005573307714754143053937777255160630222569930055798928543063613612074592196162670161772578741132 25 2 21111133111142 3142322111 142312 21 11 3111122111 1112111
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72037810049981474371474065232174799937120097203781473063915199305264039118545581706711756959500801178999889960319079960861615099299975728685881

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOGOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial No.: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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38942379936000945638775138294976937561595656086494595065121302000160353 38158199289911449913588580118399127297940199677267160322208101002730051

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) Docket: 6245.N DV1

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46945525953555745430655221808210244567899452325200976397288640650254 46945525953555745430655221808210244567899452325200976397288640650254 849497745973146216834343542336467959715024499076496011678693317555159 30827083015910190375768290808746528572476989797389334079818565606893 1143334112 1221 253251111221 111413122 11 1 1111 321211221 142211
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8545088884627020480097852825138887107890435854866976805729759027441473035 010909999711614110099545898643007090916902326229999908957793520077893999 0000100000000000011000000000000000

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOGOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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071480220208509445053354604188457962880549354244664532725494975559661725 39503231989975060100410099999867876301500989385772516410997894894025013

Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson Serial N .: Unassigned (Parent: 09/632,553) Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1

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17109964629788259668407680629988887177979156766001305679078550521952788126 798820647169024048997176126900750420884241216821871672780365075295782871525 60802979201069606571043608899737427999776301131144023298412576955875563614 12371 22512 11 2373321122321311 11 121 2232122 1231 112112 1
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82215466256478514201353546224681310651194882720465850642635714837629333 1211235121531758111111132212425519231126121253307112322243220348941212611
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709212111247777647959823031069594747182242436864033491732565911976894868 46444421743313829612802632165403824785317297140685242436390955008867228 1742844950362932802146447 8313711 36162526532122314771324204120302911602 2222213 1312211 3 22312 3 31 21 3221121113221212122312 3132 2213132 3
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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF *STAPHYLOCOCCUS AUREUS* THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

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787748445783265938261839855065972210777794287160459875031899649660389654 87802748679998189110089992307623022689977820104259958379764221090199434

Fig. 10A-77

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99999900000000000001111111111111111000000
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ST 211211
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FOM=== FOM==
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Fig. 10A-78

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555555566666666666777777777778888888888
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40716906813126309746276758057243954201910192596310567252032084687394850 997721199878181181987897920182188270299228485448199972463181740207397560

Fig. 10A-79

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997221800322370442001488603681087093705854556753945 923351754824718185885529755808768095680533932778753 345248245391822683883865450874705962804596753418662 31 1 41221111222 2 234232113131311 114241 311211 122
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67\28\089\468\184\1709\79\8\1\18\1\1\1\1\1\1\1\1\1\1\1\1\1\1\1\1
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607604009718055778644980850244426316750587356981621129480557807764086785509401000011000000000000000000000000000

Fig. 10A-80

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000000000000000000000000000000000000000
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8901234560123456789012345612345678901234567890123456789012 1111111 11111111 1111 1111 1111 1111
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98147531812178420177234856855161306956107306549274317954150509913993417 96939294069759500989194447503019013053634111847392934264568418694326516 7531 8212404485113356903611524592211 245201466636537433456444443721097555 1333 22 3212 22 331 12 2 3 1321122 331221 21223 1321322132
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10334804710777098475399813930404268290777286194578652809425466299600456654 9168119008599697819268171009099979833334000999998277184243010728737601731

Fig. 10A-81

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99990000000000000000000000000000000000
345601234567890123456123456789012345012345678901223450123 11111 11111111 11111111
9001876593368929397265152576403964194011457178708457359034537847952707 72026144409356153327651115069321921153977107526916984602704133890186538725 975774145869402357448882497551814775859533412419876193023155135530453206 211 312211 122411111 21221 13 111 21 2 2232312 1 121131111112 2112
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68396734101411253841842441088265332589964707203554450286749726036201356 2460111112272232826545681211226217555108115161212232027994123124445538802231
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91115060595050041171993222233131639902406661180130384468091609985414049665 15629866176934538024181614155254482841557593061824639211804528297692728 109424695752063301 6758306074739844945202735620500573 69753544270838869 31232 1 3 12322321 21 2 21 1 11 2221 13 2 1 3131211 21 1113 1 21 1 1
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24377775067575570585576780337789691484761709409768537745391205057252067945 230009609924999177000979098975730100994769999917012049999904788834309999 000000010000000000000000000000000

Express Mall N .: EV 073887660 US

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5000007733146556054755013449664122216549373223755352152115243484852029359901 909247875301909699992762281595281518392174999949777792120989989450990140 01000000000001000000000000000000

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23575281657197041729090433596911878181873912718354869724572463915495666 23575281657197041729090433596911878181873912718354869724572463915495666 25966722764257752586681302222485751502337051508418277559448159641917742654 1543180651121771779755233644645762111678422683239047082442924719886292250 2 122432221111322 212 411211221112321 12322111222111221122112321
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15049600050942704014827807404725723680508382827224287908726364155086400376129700009123001012999907998889721090838282722428790874998449211999996

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375635409642647777058494717977409834123840546829013347310787631174180090
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041889787149458649527729157722954707577286567978282075491944854094972201 82784792117111152886912117222252647671142154471770121277012277771424727
= = = = = = = = = = = = = = = = = = =
1211211 2 2212331 32 1213 311 11 313332 221 3 23 1 2122 12 1312112 2
63009323290873 623162535959595519892852940463018452975 63009323801826320195019718947519892852940463018452975 63009323290873 6231625359595955198906873119 65454713625
======================================
253332388390941111423726666700587553422188869437844960592397284207437146712860 0020400900599971412207269893970672099990731177041099988481686425329617681

Fig. 10A-90

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901201234567890120123456789010123456789010123456789001234567890123456789012345678901234567890123456789012345678
72077629620038277290392063004887148358548411504608851988469830782895959065985961602881493577400167005252595890655658 2117875632142674059570669859616028149355740016702025266547522959589065658 2111 123222232 11114131 11 12211 4211 111141 11111 1 1211111 122112
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740200051247552525420006001062600200211626110241010140700005405947947940595780000000000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
185225997823560473707677743511152410132663263173742206243392542836824014 08700588423150655574777426052248646656646311141431017878809580978529499 531851237734553049822956227236264045172572483 75565199693454841949124622 31 131 11212132 13323112 1221213213121 2 221 3212 3 22 22 11113 32
= = = = = = = = = = = = = = = = = = =
5439778359703867364499688604366206142871119998614364324347434639713473471498990232219937616505899757423

Fig. 10A-91

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EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
111111111111111111111111111111111111
899999999990000000111111111000000000000
90123456780123456701234560234012123456789012345123456789012345612345612345678
256728068362180285151492451515109248157488770267273606494655455458192666 53333337663653529586669765709553179569087425778506393050555761391404969205 57789453797258352428415046721399293685328480043699405441365204270352079 2 1 1111 1121 1 1111 144 52111 131 534112321132 122121211
= = = = = = = = = = = = = = = = = = =
6582827976259454572779206549559272395279285169068224042777749003656202 45154392665322374422037466233344911161364081484320113422356249711213233
= = = = = = = = = = = = = = = = = = =
808315609528607343762010023252080000000000000732133399895576986127992 37356249448980254166323867082101000000000000157314131715913131558217 176424 09531211111322454826469042 8 8 8 0258581382651 0600399057 1213 21 23223 1 3 1211113 11 1 1 1 1 1 1
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7657603605228888472753883166894869830029373812097582750377942057865183561

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901234560123456789012345601234567890123456012345678901 11111111 11111111 111111111 11111111
3109799822374055618796958803982455498639345039169206269749013393567383 535899087527373009158800350634531048688064697357185964533676164602769285 535999087524116679550318884593143993331688905682950971390066078686604027580728 2211111 122333311 1312 21 1222133122 3112 1153211115 31 1 231522233221
= = = = = = = = = = = = = = = = = = =
905200396009933457627843218012486690541075875802200143132970233099221527 2359865611011222425303648211111143282863961011244310283450331130122223
= = = = = = = = = = = = = = = = = = =
44492572963352831581989173845736543693794817112086914153151237366578845 7316909493930506528059875482405388149360949675388060614836972724448051679 55914596495491454010127426 170779181818143823243532239346800022525252 70186 1 1 113213 113 21311 1 3 32 11 1131122 3 32 321212 321 3 33 21321
686458859008872029745115555964073809416252587290441806227784096548787277021121070099989158160514099979090490510300999999139091072009999577089383

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HIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
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666667777777777777777778888888888888888
23456012345678901234501234567890123450123456789012345012 111111 1111111 1111111
427858439324092237747787003954655853691205630707823620990884594403403268 88848393246922371787003954655853691205630707823620990884594403403268 8884839321787444297853722252159691017988359271988366725097440538160122556350 06155166786332283148666647132229108794842644573706866725097440538160122556350 2 1 22221 1213111 222311111323 11 1 1 1
= = = = = = = = = = = = = = = = = = =
496049739188837773407109444195604497286381418519957054809744635084493885097 457151111120684242764493111133422326469215272522220263778212413259626365211 1 32 1
= = = = = = = = = = = = = = = = = = =
06250753057821561787953488882330866990529883832504254743006299467975376303 9731621233705685320545644091518145262008210 1534444440099233626460350 53 22 21 1 231221132 112 11 122212212 23 3 3 12112 131323222122 2212 3
======================================
91073738643613001376378609708565019252669078835064974764436839836324966311100968690288994550049808681289144008581957571654210999698500153841987

Fig. 10A-94

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EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
NANNANANANANANANANANANANANANANANANANAN
11111111111111111111111111111111111111
3456789012345612345678901234567890123456789012345678901234567890 111111 1111111
04730492150087555191902043895778512967796499946484883489630148522434512 97104400743029884143156227884655948500749581032862927634090445979122685 211012611965953952052379356074867522747966441533555542878583751774713949 1113415311 1 12 2111363311 1 21 11212 1 1 1222111322111211 222113221
======================================
8007500483377386852568791924218050905377777941965748295122010417568708234 34411522644501131443111255171124524232874158211122312244346561111222222257
= = = = = = = = = = = = = = = = = = =
4227582962831521872406901573100719508474988341982920486863320436027024706314945314184331651032790780124055832300947500841789523527415549675360049563 42447174683146793107189761419115474910817 87857694874623797192015313 2 21311 1312213 211313 222 311333 13113131 1 12 311311 2221221 1
= = = = = = = = = = = = = = = = = = =
75945504762678334956006600337281769641326966758497253733812250629396227791995063505099998997097220109998817696413269667584972537338122506293996227

Fig. 10A-95

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HILLHUNDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
NANNANANANANANANANANANANANANANANANANAN
11111111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
094437094438406510618307039888814988005288202193598889216576448871313408045014 9777086715118757301310460366173797679844193939308846144462950396630030642241 2776678477134207588150759829573646985788662624026365439464187522550788642241 1 1 22 223112 1 1333212 211 232 1122 21 2213122 1
======================================
91241251234560486235115211452017766221123263649011141 912412512345604862351152114520177362211232636490111141
======================================
64552399994013275440377969149158737157102561965322244253120562660375288701 0587392398097063067235938649819930076182018227841910791634731342185247591 29813485545230 066946382608649150161659745 2916191848277891080991240936 121 3111 1122 21 1 121322 1 1132123 21133 113 2 22 1 2 13122211 1212
======================================
46876512594539140171735297878576248396489311051272145939477195164945912 42207991984424210205377199724711004899187925221099941756820830858939826

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HILLIHIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
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0000111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
\$568495505089065048444471700031343316958504194050850858585858585858585858585858585858
GMA= 6.57 GMA= 6.57 GMA= 75.4 GMA= 12.77 GMA= 13.57 GMA= 12.66 GMA= 13.66 GMA= 14.75 GMA= 16.77 GMA= 17.77 GMA= 17.7
======================================
06700237403043037300490448859244406766182795682216588878411973910414275612 818268148151575697984919600066979268804353256716349957954392648446445772 218127739346676688758 484777255935969564448881341205063859 88516026192601 2221 32 31212 1112 2 3121 1 3 11 12 2 2211 3311 2 2 23 21 3131
======================================
1757250725118982945729618403310279506063600993844698973749713122866265

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HIHIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
222222222222222222222222222222222222
666667777777777788888888889999999999999
= = = = = = = = = = = = = = = = = = =
60315252538888340412508688681475554660659827700039357513482365952332464348 6864904190318807638802520444755564034173405541640754588450548382758897004837 33307294069259977488324174365555411499231907767444078093402254134130815626 422212 2111 1 1 222111 2111 11 11 1 1 2323132211 1 211
= = = = = = = = = = = = = = = = = = =
648277999682781260816569007909255575500646862000611956609973692136058065 12222812222812222812222812222812222812222812222812222281222222
= = = = = = = = = = = = = = = = = = =
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4559210950234297685488323430581517955551589781582066667000404056115322519997291899649246999686002592000000000000000000000000000000000

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1
#5)67&9012\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
191532089128888018279992521470664811052349597076691774985417316795238259 62260647227303560733021565796679269127694292662971398855168858046243501 7522023777389388669184906285084555435217955106481606920354920757960988130 37312211 2112 124511 1 4 1211 23312121323 131 111111 3311 3423 121
======================================
90397504248489060835699199268510841419045865799950972891949309310219237 01132254245530211012359010645664411151325242617025134435822564411114426
======================================
505581935963374361302384110993049215068769505195394984122345406212853878 699827260385381790868884301946877975265320400746749234081575465086533968170 03400218912204347237291504796224 211291675952394650287930 3 22113113113321 2 2 212 231 21 32 2131221322233112 3 2 2211 3 2 2 212
======================================
300896923280775099982575263857454239800479221036063767917514926476890116 9408725111203300099982421914732083899598857291000849377262482000999997994

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$oldsymbol{\omega}_{n}$
55555555566666666666666666667777777777
89012345012345678901234567890123456789012345678901234561234567890123111111
9225-154-07-62-12205-1-15-1-339-37-37-67-61-1-3421-15-7-4-30-67-69-34-7-52-69-44-1-10-52-07-92-1-97-03-54-6 3-4-9-6-3-1-8-2-3-3-2-6-3-1-2-3-2-3-3-3-3-3-3-3-3-3-3-3-3-3-3-3
======================================
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= = = = = = = = = = = = = = = = = = =
92828822796255978288164440832526440539014610535042461101164349835694730 367468773880132547708123703196367034255391138914124281814947534194219481 3580225265932965750764 904144525332624245340631774759212 30932106045 700 33 31 13 222 1121 22 1 23 332131 231 21 212 221 2 131 211 3212211 131
= = = = = = = = = = = = = = = = = = =
348360238684546634807608622074594603629720800793220214840564888832323570 820001201998791149614010999552202510440190849219744224310878883099492201

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900000000000000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
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= = = = = = = = = = = = = = = = = = =
= = = = = = = = = = = = = = = = = = =
2791762632888821247768865216513554172241771766326967140182803466590053432 09949959966221100986100844981120098898539920290199799991278815022859828 00000000000000000000000000000000000

Fig. 10A-101

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HINNNANANANANANANANANANANANANANANANANANA
9 10 11
61964405880515323045451067020565541443774119130288781368285486225421500361965441859848701985579662233233173023750504490609204670301478220589126765857482075523694566973730159632879519712645022777742367877997188825413714111111111111111111111111111111111
= = = = = = = = = = = = = = = = = = =
71021719013171160550785596159305431400031305358736335197275499172551769 155959813428141233144792111149223334484221213422090131155233200883212114 2 111
= = = = = = = = = = = = = = = = = = =
04836671565523600054167494761480003918928144900981567649162569947105874023 584747238548584470471868821880089820470870948995927823197275975918081373 2442405 919853051621144888043401272269 3150 8948334768095010298424546865 2322 23 12 3233 213 1 2233223212 21 2132 12232 11212 2 23213 1212222
= = = = = = = = = = = = = = = = = = =
631310280625993167928889039473803645585057787009272464942342558379340455 98712104995698197002106079707313431198098686478120989926951600007995990

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9999999000000000000011111111111111111000000
##
896905465662309364168124987829151792775600361759855054515254847480533998 14509664797746613064729178823141190668827174678694416336070002034165090 089178521476838371046397018462505312252877224335781643422651852615739643 2 11 1322 11421 21 2112121 2 1 11322221 121 11 22 1111131111112 221
======================================
15832704989097298203782906170084116605135185618194443309052165614324903 376658411153212483781321523953465341222237524732612864454414334352886124
======================================
07138834829464427647650148423740177406596482908750801991577402736589153
======================================
3165635696414845399006908337699949458554888253419526045499469302920055875 53126009593749002441976951610421038927234775128459522741186098159100998 00000000000000000000000000000000

Express Mail No.: EV 073687660 US

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5555555555666666666677777777777888888888
######################################
= = = = = = = = = = = = = = = = = = =
1 1 2 32 111 22 11 111 1 2 2 21 1 13 1 1 1 1
64548991919097198194659717245819550925177254889880339947774489099375844 075759946556619989888238081046414846535904818960594259636224449484951158
= = = = = = = = = = = = = = = = = = =
611488836904093201230151651719939714702186851716710800592055856800717670 20368549728512695521228535653256352272582284873176273130353137416932037 3 1 2 2 121
= = = = = = = = = = = = = = = = = = =
1547111376629745510259262489092216181293176270341965275532405612 8 8 8 2212113 22312 1123 3 3 232 31 2 3 31 22 2 321 2 1212 1233 131 1 1 1
19469285821059428968845632997929208092225443234100567490726367600000000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
062518014468179259994749139539356934558222388707417833662270247673144955 919014513810980000929111152105424639106347627225893027071413960089110222

Fig. 10A-104

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HILLHUHUHUHUHUHUHUHUHUHUHUHUHUHUHUHUHUHU
444444444444444444444444444444444444444
0000001111111111111111111111111111111
89012340123456789012345012345678901234501234567890123456789012345 11111 111111 1111111
= = = = = = = = = = = = = = = = = = =
4598608544541321307327476497787653435895461603203811111198966467477863938 206383997956555021985448403721548144055009972971580368284060481716636796 1107568860966845719156992564166662222534495090917968802888776666943648600164 2231 383121 22222 4 3421122223311 3352 1122211
= = = = = = = = = = = = = = = = = = =
610080907170790648019911151119640967951011990480784080958711655698171015 4640754101020214242545999-15112737007300761616110154320291010710712064344046598300 11001
= = = = = = = = = = = = = = = = = = =
00000000898414509068550377706199039360457506677309190017868933639040603658 0000000377485439897555005090949555079898197193451756087937088955019890 88 8 8981 14587090313365251726955542232 1692594924517512985883689338305 11 1 1 12121312 213 1 1 21 2222 31 3 221 32 3 1 3212 2 321 31
= = = = = = = = = = = = = = = = = = =
118501400745337766803507940063655552444291802080291416115209640105514400520 5070010009994029642801066099998982800000806081993500121009988642265342111

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HINDODE EEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEEE
444444444444444444444444444444444444444
\dot{a}
0123456789012345012345678901234501234567890123450123450123450123450123450123450123450123450123450123450
85654248323714153190620444974987164223444469998191908449852818968746590 793624577303936717884218453772248581399068629958042859063097968526657537 443977547090638672578479046742874915788573739799540173277310242861545354 13311 1221211 321 112215211 11 313 1112121211 232111 221 2 2
= = = = = = = = = = = = = = = = = = =
1001400140040945574046 1001400140040945574046 100140040945574046 100140040945574046 100140040945574046 100140040945574046 10014004045946040945574046 10014004045946040945574046 10014004045945574046 10014004045946040945574046 10014004045946040945574046 10014004040945574046 100140040945574046 100140040945574046
= = = = = = = = = = = = = = = = = = =
9793421947685474028933737209444527733504414887563486745517111152555458800 4829322179617573767851824753377326941691994624529064740665816188139402894 91606040039110017327213232729118399721025620753508185150844217555532142220 323321 2133121 231123121221221 112 1212211322 1 32 2 213 21 1312 2
======================================
442344389957122355340391143396833719165745966612317201341585539626032944 9988815340261130173597893632213032775241338001009198941297010009091739

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44444444444444444444444444444444444444
\$
89012345012345678901234012345678901234012345678901
= = = = = = = = = = = = = = = = = = =
446654077480965298153944678989191917057492277761850588197519569208168510 8685967291878538575545099797456588200037255992548424103383707386595205238429 3366017341272154443855919409257555368386645699861830378565544658869626777636 43131 1 12 221 33 31 1 1 1 11232 1 1 2 21 112 3111 12 2212 1 11 11 32
= = = = = = = = = = = = = = = = = = =
82707341055813810767351956654800164430842122422539207936810763705877126 12437160614123822772795032623223396053712423272664062521132537472440511 1 27 1 1 11
= = = = = = = = = = = = = = = = = = =
91818447259945535079282011500137424090992796001133400292301421083250079 52321006371742971724050897579015348468070199468534842586586164206592608 2629025145641054039281507927623933734769763488410 686850102273562416793 23 321 12 1 32332 121111 12 3311 1 1221112123 2 21 21322311 2 131 22
======================================
84670549381666207495259367052697728144508954207706369454175885353919304 897841000948964980191200893890990112220978947303660000909090000000000000000000000000

Fig. 10A-107

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HINNONDE EEEE EEEE EEEE EEEE EEEE EEEE EEE
\$
44444444444444444444444444444444444444
34567&90HQ340HQ34567&90HQ30HQ34567&90HQ34567&90HQ34567&90HQ0HQ0HQ34567&90HQ0HQ0HQ0HQ0HQ0HQ0HQ0HQ0HQ0HQ0HQ0HQ0HQ0
50741064962060970822384126118355996002013761157571538950472764093854475 552175766526710958265986088933648885701625351412465274126754749333627603 314403115940719132710782304167067668208777141470298089000130375028590007 13 232211 11 1 131331111121 12342111131 42233321 12 11151211322 1 1142
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558637127460577776876160793889555502873884252868582960160784443002322600 99197554413507579789148473099999999863020997998716712008978899251021400 00000000000000000000000000000000

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49793773401327119135802615446612644531838220664936674384004929887366321 22811320526263126149125550081367921237183468000210302211000200000000000000000000000

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72080264102044553367827547577197311192226250233554170788883500840291610881 8398579641516396688156230486410065054839487541504585290679381751053033384 83554032433333496341701735963050141 27844515354535441869268453057 3277256 3 3131323222 232 31 22 13 23 1 11213 2 1212 2133 12 22 331 22 2312
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95033374179511851608125302608235604313227168460359452703734171106062874 79901370087441163611400105968227522071059457413231731192983896517112027

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5399077244003226412605384310419631834926725662969710262785570445117322963 88749958111406995516961911003491351951011009889939661410090899927420220

Fig. 10A-113

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01234567890123012345678901301234567890120123456890120123456789012012345678901201234567890120123456789012012345
08681414673587010583888218640856116951944056227884497684980481091300698 82584867379498231813524469236034417221158137755836867881942595353546774069 9898526986475547884286548870282000560050468543462856866595018888707249741 114622111 1 2244 122 12223111211 1 23 333 11 1 3 231 1 233211
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10926480083305535136220786011000051388577294631787206853156874858790973 243066015977294184792642524408494701824221664509784557042225153426890440 2278881557 209537359235088773310200672757582335568422245594554860900108136 2 2 11331 221 2121 113 2 213 112 1221 312212 3131331 131 21 21231112
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51891415997534764581450746690682384397417373016140511205238972826427428 789999978810000799995055012090493214211119906993372006403670110000459922

Fig. 10A-114

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67890101234567890101234567890012345678900123456789012345678901234567801 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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511807404228650551455509542979748171902299940286967412560570858576446442 285754178278827864587121186231495525856546225742254855872468259472549067 1 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2
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0860277735240450574799672152888790450997594256626888307999298665560682963716 011347695761678883664881041760889272744473344708804027103667143836447885634932 9880564910411005886 1423194345013881632300 24999950613388475293539478782128 21331221222311 21 2 23 13312331 2233321 3122 312 13 2131231 2 2 2 2
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87672166238157548840802196898297815693865939377811258048131227889195316 81075198233111150009093567013027733051114009868322410834121310594247620166

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23456701234567012345601234012340123001234567890112345678901123456789
109830334949341372492997230280101700545565076960640150114996446242441270 909593363466237952133537849389150493889268761467628419000238810735729829 022545806545876745273528151064858330462460710621966739170176452575598066 21 1111 1 1 1121 14122214 1311 12 1 122 122 121 52 11 1 3
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8747758407333812011166166418352806940773113720270176539390134618689293396 54111007018222021743611471658428952090730070000931157101001009973181418 000000000000000000000000000000000

Fig. 10A-116

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32281707401015806225703934581669162781889191625420291510448964122070536 482551332923250572105220720238494986122822223530298212276322237839213242 118 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
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777777788888888888889999999999999999999
6789012012045678901203401234567890123456789012345678901236789012367890123678901236789012367890123678901236789
24959757132863669162145080619645869121968622656403416187703255548061785 8542187174594945951561551223749734903956710140653333552685829866642471 0684147315042268818679544796749584129912337730624882749340256945509826928 52 11 11221123211 2121 22 1 11 121121 1 1 2 212 1 11 1
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784115773452705543896213084251846464256586151648497986283630416017726156 98110008768879882200007993036001011008962884370201055619431600210563756

Fig. 10A-118

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52330130408695929870420234333135725571242290319707496207266 627729544114348702015787250371196129935502456202855406121035 7331212132 212121 32 122 31 3321 2 1131121 22 21113 333135
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688875988464729366500521576759068285674987319865749206111348579452718405080 3055502309982367462200055249615711110009775846031111496121927224090611939513

Fig. 10A-119

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3979895462931156055320570777708905535028034888341838607014595745699455226 51018173652973450803161364848988814321423857857227528553098275555042702 26481451745 9532769520432135033466884144741893349730960459629905069779669 21211313 1 21 12 312 23312 121 32 11 312 22 211 33311 1131312 2 11
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7321281634454924661848559280794076338610495996930468394115625118582448010047029902113078892604001148992100141807531710916119180020097121145123

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5383624391308203462710697524447033259349356344056450345064466341613227151 2229029365246997640932955488847020467970815788120880564505016084703174854964 13 111 111 11 2111 1 121 1 111 1 11213 1 2 1332 23111 1 31
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381746808337566925972856620656104688987488638917450975400370563125757366812203108870326691609512116509820084181107982569121800700120700211100943

Fig. 10A-121

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15938644414630104569097060294819175870439330882673406056982566353621704 256666171271185688758950944170223128990035702332933490399077254574862605164 8555723688440573504934922143925 7618035 528354152973397223495844746891 51 222 33 21311 232 31 23 132 1 2 211 1 1 21 3132 23 21 2 1 222 231212 13
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505404818122119458527827213333301254931444369449936603643164243072660725 91299003110093580190500610058268547132100020925195111100046754365201000

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Fig. 10A-123

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9950690787464892112009988757549950695013390927906784284721739300011246299 8487938431128764202961138437126757793609277644494937738881274344597141210 21435997651294059277187665039610489494805215348672132413163816706885178 1112 32 1 21 11211132 1 1213211 1 122333123
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5038721795324659335552120011517465733521867937900060522810998624170049942 454232335147434235424155432412574985941211522229330734355225772112234649 1 12 2 9 2 112
= = = = = = = = = = = = = = = = = = =
70084090774401884411110888677474700000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
31028037513391265464397317356642527591374659823811514530145735281730022 97691580111116642058861210888898242110009999983610014097241640000098784231

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777777777777777777777777777777777777777
89010123456789010123456789010123456789001234567890 11 11 11 11 11 11 11 11 11 11 11 11 11
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259884950455252100708515534511947642647169410731955558881511000601897848 929196018499437784245042124758863112581306888368862622453357040447633889424 194520142034612596751181457413167179896342615656819088628932484627295627 1 43211221 11 13 211 2 1212 21 23312 1 21221 11
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4578858666401640656069064945674577411567299806069779817868206165255557027256766855112457355666218256887479524709747872211873113086527222768765570272256
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45536790539366824640690459175419962879254216576376652716711677475077045478879505983229941581232409077528186485904795835209244566352368244175544131840614994463793818225761422055562845061783 9168255730602477557124154242332 32 3111331 22113312 32 2123121 1 2 3312213112 2113221 2
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46278876545207269652294006619790767880622887865716955674829856961814827429 200096451761078801911110192111240904914240315667141000690752035104570520024

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1221 1221 1221 1221 1221 1221 1221 122
9506120588896771248869359722830584726588053427093890650381243119769184165 646777702963567382069887737594557740072004880037405539663225118615849314823 30051637518384659693000807465509669888846197361564851849357514901653226761 211 1 11 1 1 11 11 1 1 212
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30.5067377356756077081488817007804097000408917878009868444166704848840686420 20.5515009946064016259055758080205906656640482377417735766738557667311089117285 1 10 3 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
= = = = = = = = = = = = = = = = = = =
504188207849431899459277695777485688664048335533910164640000000000000770 53544293958449051445269888410416311386011736132894151376100000000000000000000000000000000000
= = = = = = = = = = = = = = = = = = =
659855021418777516546085734185067337063561673149666921545128488953863268 811101400862351230609302003111760102312120770410444002323011010202010820

Fig. 10A-126

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08067890611454616413014231018395
= = = = = = = = = = = = = = = = = = =
5714666996304878073365816760996389575049Q38074394Q3QQ5555491431343648387 893642100003824291100020999983182100120501229202005097960011782200413349

Fig. 10A-127

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$oldsymbol{\omega}$
6666666777777777777778888888888888899999999
6789012301234567890123012345678901201234567890 11111
900994786365784155218893883571830406464711310782850723184452199143871750 76698357693531354520995689906876858570889114610772462904060857799029378 6647516794097651646618064830566651288440914973427779706469905600182776624 1 1 21211 1 21211 1 3 111
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73896033543244213358484036959832488168167660312887705837088289891083115 46016863225624396968802324623276677041285822418312211 2 41 113 114 12 1 1 2 41
= = = = = = = = = = = = = = = = = = =
736335021834560307443764528726188843078753824546262098229454720057439441 854466589073066922766649214966267430613142300674337989894494752375340642 212282591148421247 1228159562328502014935 0715102524693376472348502913 1132 32 2311212311 2 12 12213311322222113 113
======================================
717392475651005578763269233137095441219493614663277990397388117477599081111210005126929401100088942120132009999400503011098673412100098607120100

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, മാന്നെ പ്രത്യാർ ന്നെ വാന്ന് പ്രത്യാർ നില്ലാന് പ്രത്യാന് പ്രത്യാർ നില്ലാന് പ്രത്യാർ നില്ലാന് പ്രത്യാർ നില്ലാന് പ്രത്യാന് പ്രത്യാർ നില്ലാന് പ്രത്യാർ നില്ലാന് പ്രത്യാർ നില്ലാന് പ്രത്യാന് പ്രത്യാർ നില്ലാന് പ്രത്യാർ നില്ലാന് പ്രത്യാർ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് പ്രത്യാർ നില്ലാന് വര്യാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാൻ നില്ലാന് വര്യാന് വര്യാന് വര്യാൻ നില
112X2XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
88888888888888888888888888888888888888
1806888846471872770417846324440270339036706421997800998428933048909116601 11447803582795870661624910351690654933302823179689954723003322766783749776 485458992220977727046222991386297067791470321467985598129752766783749776
= = = = = = = = = = = = = = = = = = =
074\28\87774\8599015\00015\00015\009\609\007\007\007\007\1777\15\68\999\9\009\64\909\809\809\809\809\809\809\809\809\809
= = = = = = = = = = = = = = = = = = =
961825587744437846065947483510154604337606339120712235587117881217220623 26245771278787352066759255261444334542960183841426290119077688412777442658 268 558201964222635300664061105 16022493190882 31755508670471092385341583 2 1 12132 2223221 321221 22 1331112 2 21 21213312123112 123 32 21
= = = = = = = = = = = = = = = = = = =
12447779464725232925447741293626306410248035264930657864871103216540306888409899811101009971895511111175219063230650347711111008786221114000836201101

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HHIHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHHH
78888888888999999999999990000000011111111
# =   =   =   =   =   =   =   =   =   =
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433772500497055990891731481862048184992722951356287476907036418073421393 098213890204434002230095161841003111708500644041102770310401010250141116 00000000000000000000000000000000

Fig. 10A-130

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<b>യമെയെയെയെയെയെയെയെയെയെയെയെയെയാറിന്റെന്നാന്നെന്നെന്നെന്നെന്നെന്നെന്നെന്നെന്ന</b>
5566666667777778888899990000000000011111111111111
5601234560123450123012012345678901201234567890120123456789 111
33134531030747911739358250085869301763412611373866915961107133388588013 859075576507037931881826961245428342404259484651152388746783616475940385 7203379673497414876480466462535815001155557851889002276179118666639822905 111 1 1 212612 11 1321221 11 21441 23 11 111122 11
= = = = = = = = = = = = = = = = = = =
00919811745581210602008223704465737856803516501452181115020171952795572 85445769142574036583664030637509163125245917034725214343389133343334186 1 411 1 3 11 1 3 231
= = = = = = = = = = = = = = = = = = =
36909923184726578446180000000000002817747913546292827033827577478101378770142023438443029603000000000000000000000000000000000
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025603487534264632720303005001144034666387547929249151857502811942046212 12733941046104160116101100904200010992841002010095974078031008576258101 000000000000000000000000000010010010

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HILLHILLHILLHILLHILLHILLHILLHILLHILLHIL
<u> </u>
333444444444445555555555555566666666666
01201245689012012345689010123456789012012345679012012345789012123456789
8920111965520363324603244317963470297539223999010467362846067187723156931 1545882655233009979143600249776086534972899961246303588995024573367727389 668021978612792884998897577981535744565879882976676068396621821246822662 1 21431 21 21 212 31 1 2211 1 3 12211111 1
======================================
01797719425659900606681283212355684315004176571747600498354484670845297 641241240147602372420403533243426777069397226653820322517807524366596 11 11 11 3 1 3 1
$ \begin{array}{c} = = = = = = = = = = = = = = = = = = =$
924576747799517109244437959500258598517490310831562129823681065372436823 1626253755352485326688892703377394623242819952239819965259636911971827779996 020960513259946274630807115322793922891234612638448702 23254951469369295 1221 32 12 21323 1 13 31 2121 2 23 1 1 11 3 12132211 2121 32 1 1 313
======================================
7318656446782765932305663536091218530537512234070192443682906639788512800083991203000000000000000000000000000000000

Fig. 10A-132

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99900000000000111111111111111111111111
11 11 12345678901012356890101 11 11 11 11 11 11 11 11 11 11 11 11 11
= = = = = = = = = = = = = = = = = = =
30650010353691945550868788180159585268353987357645454505257166789428067040152770236865732438143558620250891406747530279794656482956195519587856511111 2 1111 2 14112 1 11
51095918105888657970280841447319617192037944910145927480664567701827571
======================================
6808235743358767495880006574315862874498250723644772300075778725301786423 86747265650495144423564704255464466939333253619183344093815414438859264466 1121 1 11 1 2 21 1
= = = = = = = = = = = = = = = = = = =
870871224513885767474445449233695462556907803824826576689878356551617827498589878255699356551617827498589828223825993502939451163537448882849386032168260994158975076623003421163427131833562661381376 465870872727173538277557251354582015005635622223112131 23 23213 23 2 1211 122122 2133 32 11231 1 2213132232 3213
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420362177948039461428558723372729162347768889175347715909101512058995160 00000000000000000000000000000000000

Fig. 10A-133

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5)678001234567890012345678901234567890123456780123456
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56437090775710163204838457796574694007637147510686867858624626537007159 55289388968875679821841319990003841881276990721166665086022065282856815214463 8347577691359184709768800625938127699072116665086022065282856815214463
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7.55.73480.57.1.75.6664.066440.100.57.64888.70.1.745.69.70.5890.7.75.79.544685.7869.1.50.00.90.70.67.8 8.57.237.02.23.25.78682.95.620.40.77.05.7460.47.69.2862.2463.75.7465.562.2482.71.1.85.22.59.466 1.611 1.221
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535348277345207744876173105201366727335086793971904871428396427074436744166583118660625944037813 2294573030902613 42336628678221591322 1551116122 2 2 2 211213133131221 13 33 2132 312 1 2 1123 211 332 1313 1132 12
\(MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM
30729355227530768124145731677611079324279071672142381562092096899668158 11011099695023100628280121131172541002644861109522320008111120070930100 00000000000000000000000000000000

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99999999999999999999999999999999999999
4*44*44*5555556666667777788880000000000111111111111111
01234560123450123401230121234567890120123456789012012345678901012345678 111
25554909444333311446258888459716883419573798154531370955284105218517644184761 2622672388914447543933008702337792646163857151379701919697612021209627295 6199479867624612866238874760406724957822255484645707130930855551514559857 111 1 11 11 11 12 1231 12 144123 1 223111 11131211 1
= = = = = = = = = = = = = = = = = = =
6424130222502714979998966209193770093377050024627358266323663256436910976285 95663873338557746933166925822185543724115332641373623256939770153448164 2 7 5 11 12 56424 1 12315
= = = = = = = = = = = = = = = = = = =
9322624054946657765149344300000000008358345718341603988092674850685754 6803363885164049593667128500000000000835834557183416039888092674850685754 68033638851640495936671288500000000000083583545555966273029085667906766 037 6505254952022462403688 88 8 88 249055635472603033311963473757971 8 12 1 221133 3313 23131 1 11 1 2 21321321 22 21 213211 221 2123 1
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32269251408989399118123264122282112219742049368301713389423563207743917 15210108570103000150001100151151111000778368020010039992200000974570010 000000000000000000000000000000000

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= = = = = = = = = = = = = = = = = = =
4588597309213642676792648111166765308147091096931711180387147153215753475 1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0
= = = = = = = = = = = = = = = = = = =
978-177745871414901569008979618045031106088400001799707904680015769800966067 77440207476801500570997799402174255175049558504400077445798477017907901701700 104 2 2 4 1 1 1 41 32 12 6012 1010
= = = = = = = = = = = = = = = = = = =
477557569112429658319008174724776091753784803384215786519880834455985238 154886363398094437840323572136413553615063827514660086140505914437520501 1506964841298233882543785514534859015034841656012342135777748377220253 408 1322 1 1 21 11 12213122132 12 22 231313131
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14467550600603007214183551370184944267550533246621333893792465479913410001099716550229409102000000000000000000000000000000

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419342502106813488895672530149595932221995258775927033497635766511522004 1701010092380010680100300105111001010081701012100064311113307384051009854 000000000000000000000000000000000000

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000000000000000000000000000000000000000
11111111111111111111111111112122222222
456789012M45678012M56780124567012M4567012M456012M45012M45012M45012M4012M01012
449522222319527238829192897166238144097777831175901733088693777635835671 9300392605878171053724314278333888775503035689950161379143465157439709433 93007962605878171053724314278333888775503035689950161379143465157439709433
= = = = = = = = = = = = = = = = = = =
52888228870209930723-159755888746134897552634742321542703386733530080514497449 2121 4 1 1 31 31 31 3 21 1 1 1 1 1 1 1 1 1 1 1
= = = = = = = = = = = = = = = = = = =
23 13121 1 1331211 22 2232 1 2 2212 12 3131131 1212122 222131 2111
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872274059693174513841290362932187670152502470643777947642549604624141080 201200651500200523770000601100082410901505330102171013901020010010152424 0000000000000000000000000000000000

Fig. 10A-138

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345678901010345678901010345678901010346789010103456789101034678900103456
= = = = = = = = = = = = = = = = = = =
163902312578622549164974976459272437054627052720480741031088494428889860 1377024647160592983675334192968969704790929194897207421111252909348776040 157733412482353586657724885189647648423221 11 11 11 11 11 11 1 1 1 11 11 1 1 1
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77218578060000682460060709969459809171576527007177209851530116696566780966 8166350007552032588244474734361653203364209344437124982645776283994196799 21335113 1 1 3 116 23121 1 1 2 18
= = = = = = = = = = = = = = = = = = =
00000000000000000000000000000000000000
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842305351522135612651131192829022913258617466453221130865148173769644305 0000000000000000000000000000000000

Fig. 10A-139

INDE INDE INDE
666677777777777778888888888889999999999
78900123456790012356789001234678900123456789001235678901234678901345678
= = = = = = = = = = = = = = = = = = =
14538062534020264436360024366201554114258756535994896789704816926808881 12781833263929143945418012564191852855107937629295965797558895582464742909
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76814593257562619277385279061813135772124485084847497450015132670444756 8813294258107523355675512253734752563095680723694702139964389545056878 11 1 1 1 2 1922 21 1 12 1 1123 11 2 1
= = = = = = = = = = = = = = = = = = =
1 2311 12 1 132 21 22 22312 22 22 131131132 311222 1222 13311 31 2
= = = = = = = = = = = = = = = = = = =
75819290969064399999651946335377777394702620213429809891151480643354313030100737235210095522002080994807100104024112000810060110301011040140112100000000000000000000

Fig. 10A-140

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344444444455555555556666666667777777777888888999999999000001111111122222
01234567890123456780123456780123456780123456780123467012345670123560123456012
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Fig. 10A-141

Express Mall No.: EV 073687660 US

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Fig. 10A-142

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Fig. 10A-143

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Fig. 10A-144

Express Mail No.: EV 073687660 US

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Fig. 10A-145

Express Mall N .: EV 073687660 US

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Fig. 10A-146

Express Mall No.: EV 073687660 US

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Fig. 10A-147

Express Mall No.: EV 073687660 US

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Fig. 10A-148

Express Mall No.: EV 073687660 US

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Title: CRYSTALLIZATION AND STRUCTURE DETERMINATION OF STAPHYLOCOCCUS AUREUS THYMIDYLATE KINASE Applicant(s): Timothy E. Benson
Serial N .: Unassigned (Parent: 09/632,553)

Filed: Herewith (Parent: Aug. 4, 2000)

D cket: 6245.N DV1 Filed: Herewith (Parent: Aug. 4, 2000) D cket: 6245.N DV1 Sheet 217 of 219 Express Mall No.: EV 073687660 US

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Fig. 10A-150

Express Mall No.: EV 073687660 US

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Fig. 10A-151

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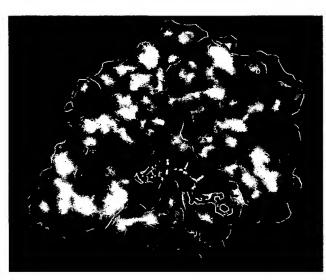




Fig. 11a





Fig. 11b

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